

International opportunity recognition by South African entrepreneurial firms

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ABSTRACT

The global market is a dynamic, competitive environment offering business growth and development, and as such a pull towards international activities exists for firms. Despite this globalisation of markets, international entrepreneurship research has not focussed on the opportunity recognition process in an international context. In addition, the cross-national differences that may exist, and the validation of perspectives to emerging economies, is poorly understood.

This research was conducted in South Africa, a country considered to be an emerging economy, with the purpose of ascertaining how local entrepreneurial firms recognise international opportunities, and the main factors influencing this process.

This was done using a quantitative statistical research methodology, in the form of a cross-sectional study. An online self-administered survey was utilised for data collection, which was then subjected to the research selection criteria.

Prior experiential knowledge and the levels of entrepreneurial orientation, in terms of proactiveness, risk-taking and innovativeness, did not seem to have a significant effect on the international recognition process by South African firms. The effect of organisational learning could not be conclusively drawn. However, international social networks, in relation to the amount of time invested in interacting with contacts, and developing and maintaining contacts, seemed to have a significant effect on this process.

This research provides the initial insights into an under-researched area, and contributes to international entrepreneurship research with empirical testing of a sample from South Africa.

DECLARATION

I, Candice Angela Willard, declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Management in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

.....

Candice Angela Willard

Signed at

On the day of 2015

DEDICATION

FOR BLAISE COLEMAN

“Any good thing I do -
it's all because of you”
(Author unknown)

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My sincere thanks and appreciation goes to:

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LIST OF ABBREVIATIONS

ANOVA	Analysis Of Variance
EO	Entrepreneurial Orientation
IE	International Entrepreneurship
IMP	International Marketing and Purchasing
M/C&S	Miller/Covin and Slevin
MNCs	Multi-National Corporations
OSA	Ownership-Specific Advantages
R&D	Research and Development
SACCI	South African Chamber of Commerce and Industry
SMEs	Small and Medium-sized Enterprises
TCA	Transaction Cost Analysis
TEA	Total Early-stage Entrepreneurial Activity

CHAPTER 1: INTRODUCTION

1.1 Purpose of the study

The purpose of this research was to ascertain how entrepreneurial firms in South Africa successfully recognise international opportunities. It was hoped that through this research, the main factors influencing this process would be determined.

1.2 Context of the study

The globalisation of markets and industries has resulted in firms, regardless of size, being forced to compete alongside each other, with the need to become regionally or globally competitive in order to survive (Etemad, 2004). Additionally, the pull towards internationalisation exists, as the global market, a dynamic, competitive environment, offers the potential for business growth and development through the exploitation of opportunities as presented.

International entrepreneurship (IE) literature has largely focussed on the internationalisation of entrepreneurial firms, examining the strategies employed, and the extent, degree, speed and scope of international activities (Zahra & George, 2002). Research identified as sorely lacking relates to the process of internationalisation - the “how, why and when entrepreneurial firms discover and exploit international opportunities” (Dimitratos & Jones, 2005; Ellis, 2011; Young, Dimitratos & Dana, 2003; Zahra & George, 2002).

Kiss, Danis and Cavusgil (2012) advocates for further research in this area, with a particular focus on emerging economies, so as to understand the cross-national differences that may exist. Their review of IE research

revealed that this research area in emerging economies is dominated by studies in Europe and Central Asia, as well as East Asia and the Pacific, with other regions relatively neglected (Kiss et al., 2012). As such, an incomplete understanding of the variables found in the different emerging economies, and their influence on the internationalisation process, exists (Kiss et al., 2012).

This research sought to address the how of this process, ascertaining whether a number of factors influence a firm's recognition of international opportunities. In addition, it was conducted in South Africa, a country considered to be an emerging economy, and one of stark contrasts, marked with high levels of unemployment and an unequal distribution of wealth and equality (Leibbrandt, Wegner & Finn, 2011). Against this background South Africa consistently exhibits a low total early-stage entrepreneurial activity (TEA) relative to comparable countries (Simrie, Herrington, Kew & Turton, 2012). Furthermore, the expansion of South African entrepreneurial firms into global markets is impeded by several factors and challenges.

1.3 Problem statement

Although the opportunity recognition construct is a fundamental research area, very little research has been done on this process in the international context. The “how, why and when, some entrepreneurial firms, and not others, recognise international opportunities” is under-researched and poorly understood (Dimitratos & Jones, 2005; Ellis, 2011; Young et al., 2003; Zahra & George, 2002). Furthermore, cross-national differences, and the validation of perspectives developed in mature markets is poorly understood and under-explored (Kiss et al., 2012).

This research addresses this gap in theory by attempting to ascertain how entrepreneurial firms in South Africa recognise international opportunities, and the main factors influencing this.

1.3.1 *Main problem*

The principal problem of the research was to ascertain how entrepreneurial firms in South Africa recognise international opportunities, and the main factors influencing this process.

A number of factors have been shown to influence the process of opportunity recognition within an international context. These include organisational learning, prior experiential knowledge, international social networks and entrepreneurial orientation (EO). The aim of this research was to therefore determine whether or not these factors have any bearing on the international opportunity recognition process, as from the perspective and experience of South African firms.

1.3.2 *Sub-problems*

Each sub-problem considers an individual factor and its influence on the international opportunity recognition process, and as such:

The first sub-problem is to ascertain the influence of organisational learning on the international opportunity recognition process by South African firms.

The second sub-problem is to ascertain the influence of prior experiential knowledge on the international opportunity recognition process by South African firms.

The third sub-problem is to ascertain the influence of international social networks on the international opportunity recognition process by South African firms.

The fourth sub-problem is to ascertain the role of EO on the recognition of international opportunities by South African firms.

Keywords: International entrepreneurship; internationalisation; international opportunity recognition; organisational learning; prior experiential knowledge; international social networks; entrepreneurial orientation.

1.4 Significance of the study

This research fills a gap, in that it responds to the calls to broaden the research lens within IE, specifically focussing on the antecedents for the process of internationalisation. Previous limited research addressing this has been largely case-study based with small sample sizes.

In addition, Zahra and George's (2002) review of IE literature revealed a sample bias, with high-technology firms being the focus of research, and little emphasis on traditional industries, as well as small sample sizes not fully representative of the industry. The majority of studies are conducted in the United States which could potentially fail to account for differences across countries (Zahra & George, 2002). In addition, further uneven distribution of IE research was revealed in emerging economies, with very limited research in Latin American, African and Middle Eastern regions (Kiss et al., 2012).

It is therefore hoped that this research will contribute to IE theory and empirical testing with more inclusive samples from a South African perspective.

1.5 Delimitations of the study

Heeding the calls for more inclusive sample representation (Dimitratos & Jones, 2005; Zahra & George, 2002), this research investigated South African entrepreneurial firms, irrespective of age, size and sector.

This research was conducted using a cross-sectional study approach. This approach has been deemed as potentially problematic in that it may not capture the complex entrepreneurial processes at play over time (Kiss et al., 2012; Zahra & George, 2002).

The scarcity of available research in this area results in limited guidance and direction for research. As such, the drivers and propositions put forth by Chandra, Styles and Wilkinson (2009) were largely considered, with modifications where appropriate.

1.6 Definition of terms

Key constructs pertinent to this research are defined below with others and their dimensions defined as they appear in the report.

The underlying construct is that of IE, which according to Oviatt and McDougall (2005, in Covin & Miller, 2014, p.13) is defined as, “the discovery, enactment, evaluation, and exploitation of opportunities across national borders to create future goods and services”.

Internationalisation is defined as a firm-level activity that crosses international borders (Wright & Ricks, 1994, in Jones & Coviello, 2005).

International opportunity recognition is the central construct in this research; however, to the best of the researcher's knowledge no workable definition for it exists. This is discussed in greater detail below.

1.7 Assumptions

The assumptions made in this research, which could have implications for the outcome, are presented below.

Having international activities solely equates to the ability to recognise international entrepreneurial opportunities. A firm's resolve to not exploit opportunities once evaluated, or the exclusion of internationalisation in a firm's growth strategy, is not considered.

Given that the research instrument was a self-administered survey distributed via email, it is assumed that data collected using this technique reflects adequate perspectives and experiences on the international opportunity recognition process.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This literature review introduces the IE construct, exploring the advancing body of research and highlighting shortcomings and areas for future research. One such area that emerged requiring further research relates to the recognition of international opportunities. The purpose of this research was to therefore examine how international entrepreneurial opportunities are recognised.

To understand the opportunity recognition construct, existing literature highlighting explanations for, and models of this process are explored. Lastly, literature on opportunity recognition in an international context is examined.

This literature review is by no means a complete, exhaustive representation of existing literature, but it is believed to represent pertinent literature available to the researcher.

2.2 Background discussion

IE is encapsulated in the identification and exploitation of opportunities for international exchange; however, little is known about the methods used for this opportunity recognition. The traditional theories of internationalisation seldom address how these opportunities are recognised and exploited, thereby failing to explain how firms actually enter new foreign markets (Andersen, 1993, in Ellis, 2011). As a result, IE can be distinguished from traditional theories of internationalisation in a number of ways. Firstly, traditional theories of internationalisation focussed on large multinational corporations (MNCs), whilst IE developed as a result

of globalisation of markets, and the increasing number of firms that were internationalising while still young and small (McDougall & Oviatt, 2000; Ellis, 2011). Secondly, traditional theories of internationalisation proposed incremental expansion patterns, whereas IE views internationalisation as rapid and opportunity-driven (Johanson & Vahlne, 1977, in Ellis, 2011).

The first influential study in IE was that of McDougall (1989, cited in McDougall & Oviatt, 2000; Young et al., 2003), who suggests that IE was the development of new ventures who internationalise from inception. Resulting research therefore focused on new, young, small firms to the exclusion of established ones (McDougall & Oviatt, 2000; Young et al., 2003; Zahra & George, 2002). Following the calls for the extension of IE to cover other entrepreneurial firms, McDougall and Oviatt (2000) refined the primary IE definition to, “a combination of innovative, proactive and risk-seeking behaviour that crosses cross-national borders and is intended to create value in organisations” (p. 903). They revised this definition to, “the discovery, enactment, evaluation, and exploitation of opportunities across national borders to create future goods and services” (Oviatt & McDougall, 2005, in Covin & Miller, 2014, p. 13). For the purposes of this research, this latter definition is used as the working definition of IE, as it highlights opportunity recognition and exploitation as a characteristic of IE.

Zahra and George’s (2002) review of IE research revealed that multiple theoretical perspectives including the, “resource-based view, transaction cost theory, organisational learning, and product life cycle theory have been largely applied to IE” (p. 12). Additionally, the main dimensions of IE that have been researched include the extent or degree of internationalisation, as well as the speed and scope of internationalisation (Zahra & George, 2002). Accordingly, they argued that the main influences and variables of IE, as well as their relationships and interactions with each other, are poorly understood. One such area requiring further

research and improved understanding relates to the recognition and development of international opportunities (Dimitratos & Jones, 2005; Kiss et al., 2012; Young et al., 2003). There is a need to understand the, “how, why and when, some firms and not others, discover and exploit international opportunities” (Zahra & George, 2002).

In an attempt to guide and direct future IE research for meaningful theoretical contributions, Zahra and George (2002) developed an integrative framework (Figure 1). Within this model, organisational factors are modelled as the main antecedents of IE, with strategic and environmental factors moderating the relationship between organisational factors and the dimensions of IE (Zahra & George, 2002).

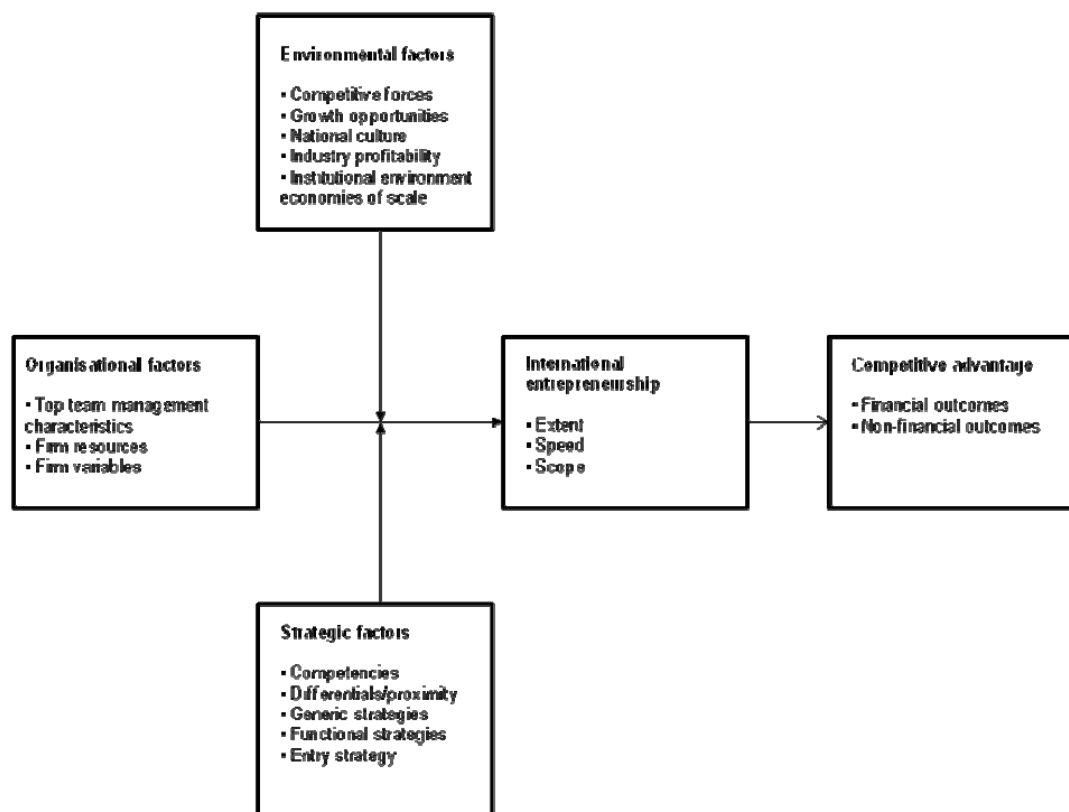


Figure 1: An integrated model of international entrepreneurship (Zahra & George, 2002, p. 50)

Accordingly, the organisational factors considered important to IE include top management team characteristics, firm resources and firm-specific variables (Zahra & George, 2002). Top management team characteristics such as foreign work experience, foreign education, background and vision and exposure to international markets are argued to significantly influence a firm's strategic choice to internationalise (Zahra & George, 2002). Unique assets, research and development (R&D) spend, network and reputation make up a firm's resources, which are also important to the internationalisation process. Firm-related variables relate to the size, age, location, origin and growth orientation of a firm (Zahra & George, 2002).

The importance of the external environment on a firm's strategic choices has been consistently acknowledged by researchers (Kiss et al., 2012; Zahra & George, 2002). The characteristics and developments in the, "international economic, legal, institutional and political-social environment" are important factors as they could provide, "distinctive host country challenges and opportunities that can be exploited by international entrepreneurs" (Young et al., 2003, p. 35).

These potential opportunities resulting from the external environment was highlighted by Di Gregorio's (2005) examination of country risk, which showed that its established measures are in fact, "unreliable predictors of actual volatility" (p. 209). Strategies intended to minimise or avoid downside risk are argued to produce limited results or even missed entrepreneurial opportunities, which are considered to be greatest under disequilibrium conditions (Di Gregorio, 2005). On the basis of entrepreneurship theory, Di Gregorio (2005) proposed alternative strategies which focus on maximizing upside volatility and risk, with uncertainty viewed as a potential opportunity.

Similarly, Jones and Coviello (2005) put forth a general model of entrepreneurial internationalisation, highlighting its primary dimensions and constructs (Figure 2). They argue that the primary dimensions include time and behaviour where, “value-added events manifest as internationalisation behaviour is influenced by the entrepreneur and the firm and moderated by the external environment” (Jones & Coviello, 2005, p. 289). Additional other contexts, including firm performance, the external environment, the firm and management team, are potential influences (Jones & Coviello, 2005).

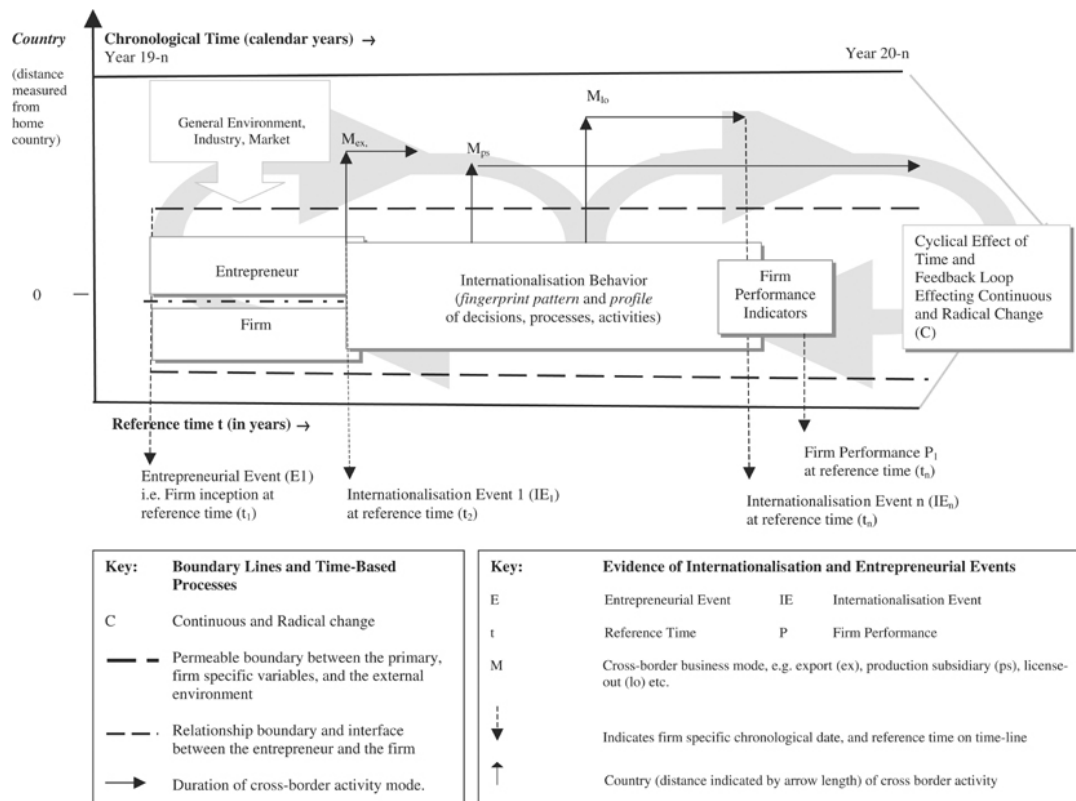


Figure 2: A general model of the entrepreneurial internationalisation process (Jones & Coviello, 2005, p. 293)

These models serve as useful theoretical foundations to guide this research so as to contribute towards an integrated understanding of IE. The key constructs in this research are consistent with elements of these models.

2.3 Internationalisation

Key traditional theories applied to the internationalisation process include the industrial organisation, the internationalisation, the transaction cost, and the eclectic theories (Axinn & Matthyssens, 2001).

The industrial organisation theory makes the assumption that operating overseas is more costly than doing business at home, and as result, MNCs therefore create offsetting advantages in order to be successful (Axinn & Matthyssens, 2001). Internationalisation theory posits that MNCs provide alternative mechanisms for arranging value-added activities across borders, which are needed due to market imperfections.

The eclectic theory contains elements of the industrial organisation, the internationalisation and the transaction cost theories, where a firm's decision to engage in foreign direct investment and the allocation of resources is, "dependent on the interaction of three variables including ownership-specific advantages (OSA), locational attractions of countries or regions and internationalisation advantages" (Axinn & Matthyssens, 2001, p. 442). The eclectic paradigm explains the process of international production, and is founded on related OSA (Dunning, 1998, in Whitelock, 2002). The decision to enter international markets is largely based on a transaction cost analysis (TCA) with the assumption of competitive markets (Whitelock, 2002). This approach focuses on a combination of economic theories of monopolistic competition, location and TCA as the decision-making basis (Whitelock, 2002).

With these theories the environmental context is taken as given, as opposed to the Nordic theories including the Uppsala model and the network theory, where the environment influences firm behaviour (Axinn & Matthyssens, 2001).

The Uppsala model is considered an incremental process, with firms developing activities abroad over time as their knowledge develops (Whitelock, 2002). This knowledge development is based on the premise of psychic distance, where firms first expand into markets that are psychically close, and then venture further afield as their knowledge develops (Johanson & Vahlne, 1977, in Whitelock, 2002). The concept of experiential knowledge is key to this approach, with a stage theory of internationalisation through the development of export activities (Bilkey & Tesar, 1977; Cavusgil, 1980, both cited in Whitelock, 2002). There are, however, opposing viewpoints that have shown that firms can use mixed approaches to enter international markets, and that such market entry does not necessarily have to be through export (Buckley, Mirza & Sparkes, 1997; Turnbull, 1987, both cited in Whitelock, 2002). The Uppsala model of Johanson and Vahlne (1997; 1990, in Axinn & Matthyssens, 2001; Whitelock, 2002) stems from the resource-based view rooted in the classical theory of the firm (Penrose, 1959, in Axinn & Matthyssens, 2001). The entry mode decision of this model is a time-dependent process resulting from a firm's prior experiential knowledge.

Both the Uppsala and eclectic paradigm approach to internationalisation focus on the independence of the firm in developing its international activities and its choice of market entry, not taking into consideration the firm's characteristics and the market in which it would like to operate, which are considered important in industrial systems (Johanson & Mattsson, 1986, in Whitelock, 2002). The industrial system is described as a, "network of firms engaged in the production, distribution and use of goods and services through which business relationships are established, developed and maintained" (Whitelock, 2002, p. 344). This interaction process comprises four groups including the interaction itself, buyers and suppliers' characteristics, the atmosphere surrounding, and the environment in which, the interaction takes place (Whitelock, 2002). The

analysis of the environment informs the decision regarding which country to enter, and the appropriate organisational structure required to do so (Whitelock, 2002).

The business strategy approach is based on practicality, where firms make trade-offs regarding a number of variables related to the decision to internationalise and the best method to do so (Welford & Prescott, 1994, in Whitelock, 2002). The factors considered important for market selection using this approach include market attractiveness, psychic distance and accessibility, as well as informal barriers. Organisational structure considers the characteristics of the market listed above, as well as the company characteristics including internationalisation history, size, export orientation and commitment (Root, 1987; Turnbull & Ellwood, 1986, both cited in Whitelock, 2002).

Although these four approaches are partly informed by market information, they present differing opinions with an emphasis on different market entries and modes of selection, as summarised in Table 1 below.

Table 1: Comparison of the Uppsala, eclectic paradigm, industrial network and business strategy approaches to internationalisation (Whitelock, 2002, p. 346)

Theory	Dominant feature	Locus
Uppsala (Johanson & Vahlne, 1977)	Experiential knowledge	Firm
Eclectic paradigm (Dunning, 1988)	Cost of transaction	Firm
Industrial networks (International Marketing and Purchasing (IMP) Group)	Interaction	Firm customer competitor supplier within market environment

Theory	Dominant feature	Locus
Business strategy (Reid, 1983; Root, 1987)	Opportunity	Market
	Resources	Firm
	Managerial	Firm
	philosophy	

Analysing these approaches, Whitelock (2002) found that despite their differences, areas of convergence existed. A model including key elements of each approach was therefore developed, which is believed to represent a more comprehensive overview of international market entry, is presented in Figure 3 below.

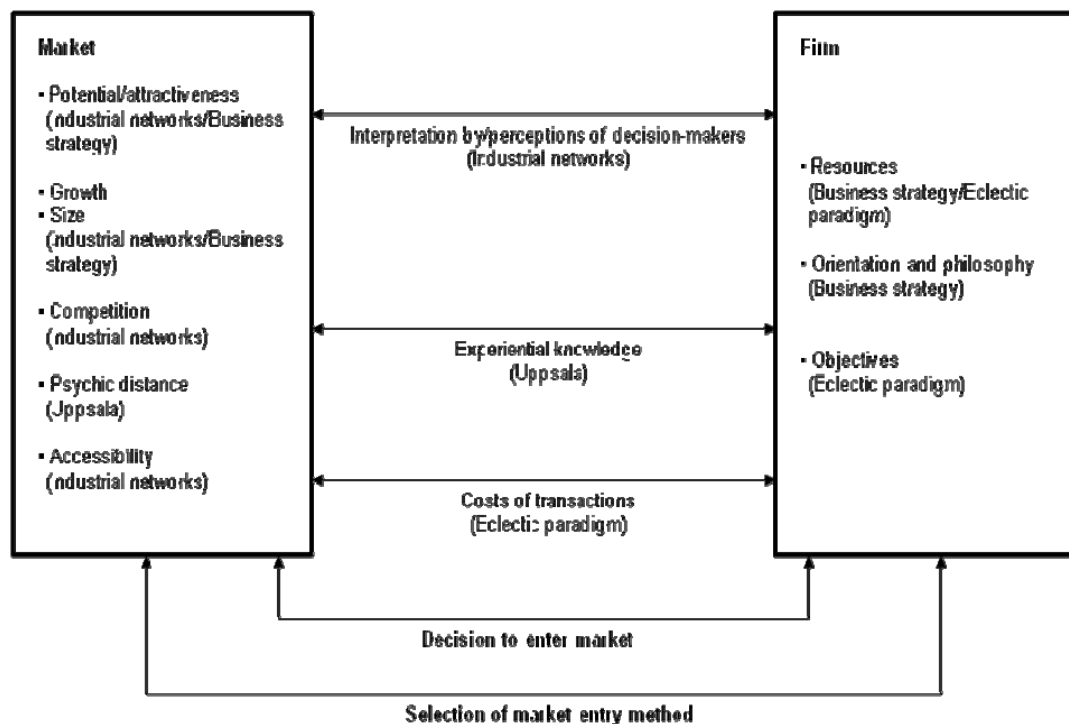


Figure 3: Model of international market entry (Whitelock, 2002, p. 346)

The focus of most of these theories explains the internationalisation behaviour of large manufacturing firms from developed countries that expand on a gradual basis from psychologically close to psychologically more distant countries (Axinn & Matthyssens, 2001). The fact that such

theories are able to explain the internationalisation behaviour of firms outside this box is considered coincidental. Although these theories were developed within specific environmental contexts explaining observed internationalisation behaviour, these contexts have changed, arguably making these theories inadequate and insufficient to explain behaviour currently observed (Axinn & Matthyssens, 2001).

Taking this into consideration, Axinn and Matthyssens (2001) examines the impact of the “global economy, the growth of the service economy, the Internet-driven economy, high-technology markets and the knowledge-based network economy, as well as the value economy” on the applicability of the traditional internationalisation theories (Axinn & Matthyssens, 2001, p. 437). They contend that given the numerous changes experienced, the traditional theories have several drawbacks and limitations, and therefore fail to account for current internationalisation behaviour. One of the key drawbacks and limitations relates to the speed of internationalisation, where most theories assume a gradual, staged approach to internationalisation. The Internet-driven economy and high-technology markets see firms internationalising at greater speeds in order to remain relevant, sustainable and competitive. The advent of born globals, who internationalise soon after establishment, cannot be adequately explained by the existing theories.

Crick and Spence’s (2005) investigation of 12 high-technology small and medium-sized enterprises (SMEs) in the United Kingdom found that internationalisation is not always as systematic as traditional theories suggest. Instead, it can take place via planned or unplanned strategies, central to which is the identification and exploitation of entrepreneurial opportunities. Although their findings supported the resource-based view and network theories, as well as contingency factors, they highlighted that entrepreneurial decisions cannot be fully explained by a single theory

(Crick & Spence, 2005). Specifically, “serendipitous or chance events” as part of the contingency factors were highlighted as an under-researched area. Accordingly, they suggest that the ways in which SME managers identify and act upon serendipitous or chance events and opportunities is the main distinction between high and low performing internationalisers (Crick & Spence, 2005).

Since firms internationalise in various ways, examining the various dimensions of internationalisation is believed to provide an overview of a firm’s strategy for internationalisation. Some authors such as Welch and Luostarinen (1993) and Chetty (1999) in Ruzzier, Antoncic and Hisrich (2007), have attempted to overcome the weaknesses of the stage model of internationalisation. However, these overlooked the important time dimension of internationalisation. Ruzzier et al. (2007) advocate the importance of the time dimension, as evidenced by the advent of born global firms, as well as the ever-changing environmental context in which firms operate. Their study identified five dimensions of internationalisation, including operation mode, market, product, time and performance that needs to be considered to encompass the multi-dimensionality of internationalisation.

The operation mode dimension relates to how firms enter foreign markets, which is a useful way to assess a firm’s pattern of internationalisation. No ideal market entry strategy is believed to exist, “as different market entry modes can be used by different firms entering the same market, as well as the same firm entering different markets” (Ruzzier et al., 2007, p. 163). Given the dynamism of internationalisation, many combinations and entry modes and operations are used by firms.

The market dimension encompasses the markets that firms target for entry, which may differ from each other (Ruzzier et al., 2007). According

to the Uppsala model, firms start their internationalisation process by entering markets that are psychologically close, as they presumably have a greater knowledge of the market with less risk, and they then expand to other markets further afield (Johanson & Vahlne, 1977, in Whitelock, 2002; Ruzzier et al., 2007). Target market selection using the psychic distance concept is non-systematic and is more applicable to small firms or firms beginning their internationalisation (Andersen & Buvik, 2002, in Ruzzier et al., 2007).

The product dimension encompasses physical goods, services, know-how and systems to meet customer needs and problems. The performance dimension typically measures the extent and growth of sales resulting from internationalisation (Cooper & Kleinschmidt, 1985, in Ruzzier et al., 2007).

By building on traditional theories of internationalisation, as well as incorporating newer theories, an integrative, multi-dimensional construct of internationalisation was developed, as depicted in Figure 4 below (Ruzzier et al., 2007). In addition to being theoretically grounded, this construct was also empirically tested and supported and is therefore believed to provide a more complete picture for the examination of internationalisation.

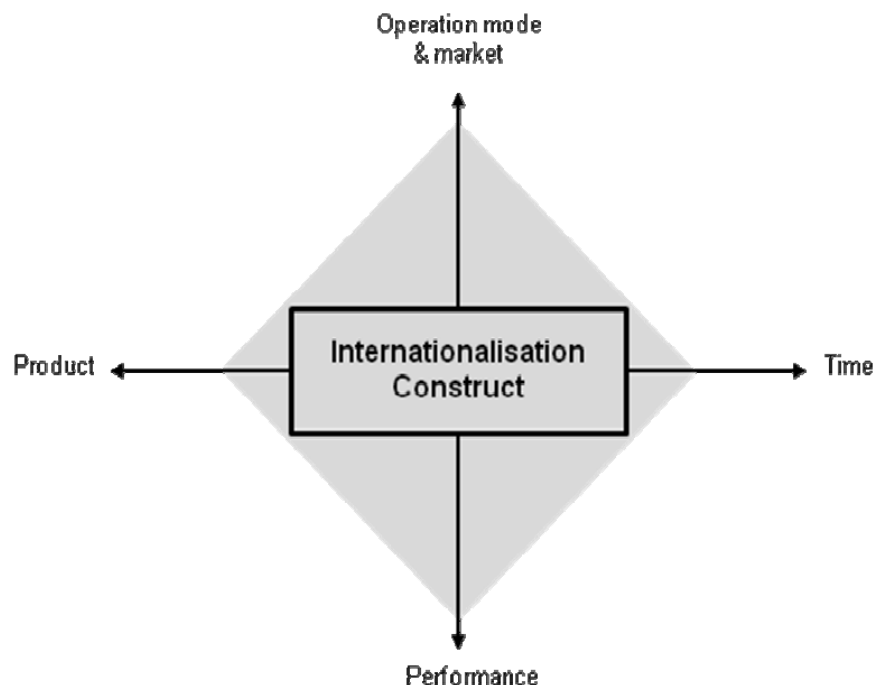


Figure 4: Multi-dimensional internationalisation construct (Ruzzier et al., 2007, p.174)

2.4 Entrepreneurial opportunity recognition

Despite the many definitions of entrepreneurship that exist, a common theme has emerged around the opportunity concept as a key element in this process (Chandra et al., 2009; Shane & Venkataraman, 2000). Accordingly, the, “discovery, evaluation and exploitation of opportunities” is argued to be the defining feature of this entrepreneurial process (Shane & Venkataraman, 2000, p. 218). Entrepreneurial opportunity recognition is broadly defined as the ability to identify and transform an idea into a business venture creating value and revenues (Lumpkin & Lichtenstein, 2005).

Researchers contend that opportunities primarily exist as the result of people’s different beliefs about the relative value of resources. As explained by Schumpeter (1934, in Shane & Venkataraman, 2000, p.

221), “economies operate in a constant state of disequilibrium, where technological, political, social, regulatory and other types of change offer a continuous supply of new information about different ways to use resources to enhance wealth”.

Despite the substantial progress made in conceptualising the entrepreneurial opportunity recognition process, Ardichvili, Cardozo and Ray’s (2003) literature review revealed that several concepts including opportunity development, recognition and evaluation exists, which are often conflated.

Existing literature on opportunity recognition alludes to it comprising three distinct phases of sensing or perceiving a market need and/or underemployed resources, recognising or discovering a fit between market need and resources, and creating a new fit in the form of a business venture (Ardichvili et al., 2003). According to Ardichvili et al. (2003), this represents perception, discovery and evaluation and not simply recognition. Opportunities are then evaluated at each stage of development, with this evaluation not necessarily communicated until resources are required for further investigation. Commitment of resources, other than time, results in the formalisation of the evaluation procedure. This evaluation procedure is commonly done through a stage-gate approach, with the passing of opportunities through each stage dependent on the number of constraints experienced by entrepreneurs (Ardichvili et al., 2003).

While opportunities may be recognised, they are thought to be made and not found. Sensitivity to market needs and an ability to spot sub-optimal deployment of resources can help an entrepreneur to develop an opportunity (Ardichvili et al., 2003). The development of an opportunity therefore involves a continuous, proactive process resulting in the

establishment of a business. This differs from previous research (for example, Kirzner, 1973, in Ardichvili et al., 2003) which considers opportunity recognition as a process of discovering something already in existence. As a result, Ardichvili et al. (2003) argues that opportunity development is a more accurate term for this process than recognition.

The aim of this research was to understand how firms recognise international opportunities (Zahra & George, 2002), and as such it takes a process approach to understand what factors may influence a firm's identification or recognition of opportunities for international exchange. So in keeping with the extensive literature, the term 'recognition' will be used for this research.

2.4.1 Models of the entrepreneurial opportunity recognition process

A number of factors that are believed to influence the way opportunities are identified and developed by entrepreneurs have been identified. These include entrepreneurial alertness, information asymmetry and prior knowledge, discovery versus purposeful search, social networks and personality traits (Ardichvili & Cardozo, 2000; Ardichvili et al., 2003). Numerous models of the opportunity recognition process have been presented; however, these are based on different and often conflicting assumptions from a wide range of disciplines. As such, a comprehensive understanding of this process is argued to be lacking (Ardichvili & Cardozo, 2000; Ardichvili et al., 2003).

According to Shane and Venkataraman (2000), this process is influenced by two factors, namely the, "possession of prior knowledge to identify opportunities and the cognitive properties needed to value it" (p. 222). Information stores of individuals differ, which influences their ability to recognise opportunities. Furthermore, this information is not widely

distributed across the population. Thus, even if an individual has the prior information required for the discovery of opportunities, they may not be able to do so as a result of an inability to see means-end relationships (Shane & Venkataraman, 2000). Opportunities are then exploited according to the nature of the opportunity, as well as individual differences in perceptions and optimism. Individuals with greater self-efficacy and a more internal locus of control are more likely to exploit opportunities (Shane & Venkataraman, 2000).

Ardichvili and Cardozo (2000) argues that an empirically supported model for this process which integrates the multiple variables is missing. They developed a testable model of the opportunity recognition process as depicted in Figure 5 below, where the prerequisites for successful opportunity recognition include entrepreneurial alertness, access to social networks, and prior knowledge of markets and customer problems. Accordingly, creativity is not required in this model (Ardichvili & Cardozo, 2000).

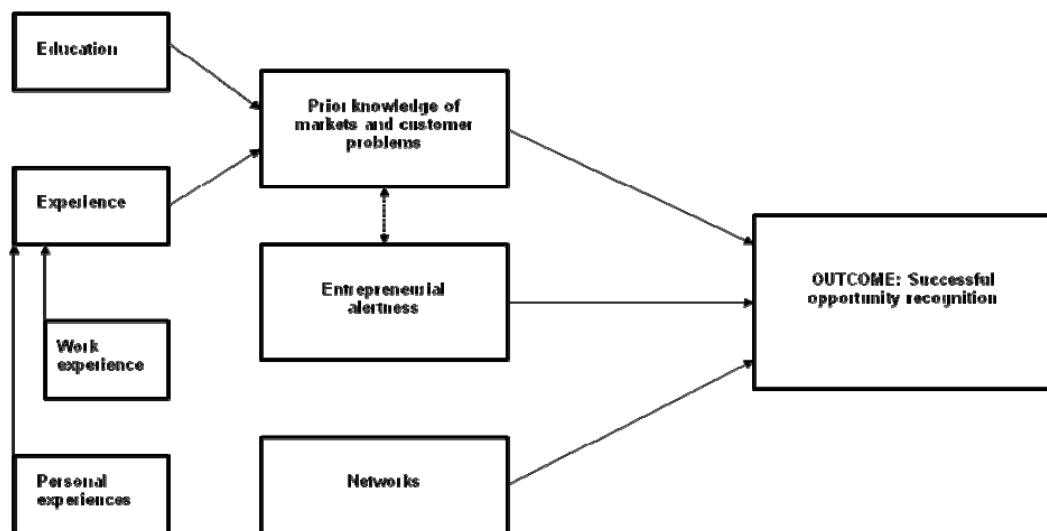


Figure 5: Model of the opportunity recognition process (Ardichvili & Cardozo, 2000, p. 116)

This was later modified by Ardichvili et al. (2003), where prior knowledge, networks and personality traits are presented as the antecedents of entrepreneurial alertness, which in turn is modelled as the necessary condition for opportunity recognition, development and evaluation (Figure 6).

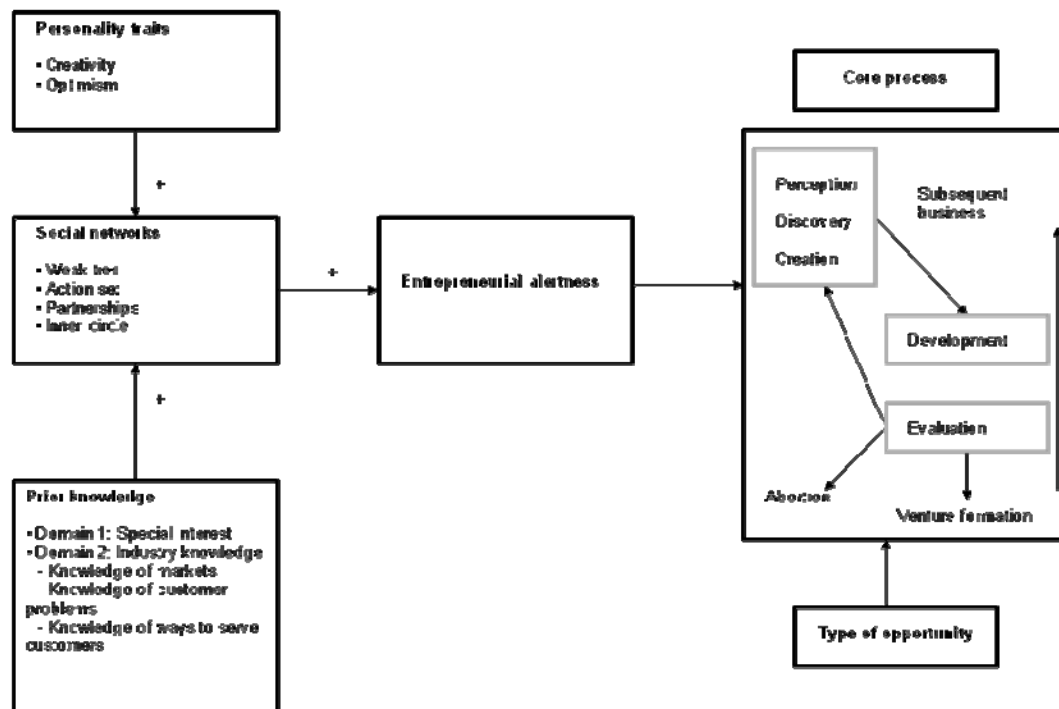


Figure 6: Model and units for opportunity recognition and development (Ardichvili et al., 2003, p. 118)

In contrast to these is the creativity-based model of Lumpkin and Lichtenstein (2005) which builds on the idea of discovery and evaluation. Here the opportunity recognition process is depicted as a staged process, comprising a discovery phase (preparation, incubation and insight) and a formation phase (evaluation and elaboration), as presented in Figure 7 below. Key to this model is its repetitive nature, through which insights are contemplated, information collected and considered, and knowledge created over time (Lumpkin & Lichtenstein, 2005).

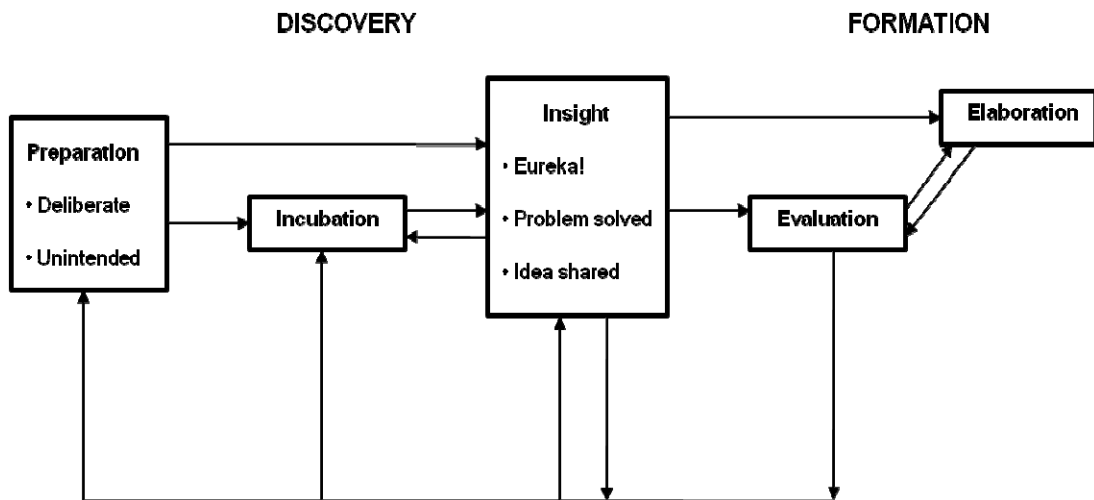


Figure 7: Creativity-based model of entrepreneurial opportunity recognition
(Lumpkin & Lichtenstein, 2005, p. 458)

2.4.2 Entrepreneurial alertness

The first use of the term alertness in the entrepreneurial opportunity recognition process was by Kirzner (1973, cited in Ardichvili & Cardozo, 2000). According to Ardichvili and Cardozo (2000), the recognition of entrepreneurial opportunities is preceded by a heightened awareness of information. Embedded in this is that a higher level of alertness increases the likelihood of entrepreneurial opportunity recognition (Ardichvili & Cardozo, 2000). Alertness in turn is likely to be heightened when there is a coincidence of the factors discussed below.

2.4.3 Information asymmetry and prior knowledge

According to Shane (2000, in Corbett, 2007), people are not likely to identify the same opportunity, as differences in the distribution of information results in knowledge asymmetries. Corbett's (2007) research addresses why such knowledge differences might exist, where he identified the existence of knowledge asymmetries that arise from the existence of learning asymmetries. The different ways in which individuals

acquire and transform information results in a difference in the knowledge they can use to recognise opportunities (Corbett, 2007).

The dimensions of prior knowledge that are important to the opportunity recognition process include prior knowledge of markets, ways to serve markets, and customer problems (Shane, 1998, in Ardichvili & Cardozo, 2000; Shane & Venkataraman, 2000). Prior knowledge is the accumulation of relevant education, experience or a combination thereof (Ardichvili & Cardozo, 2000).

According to Sigrist (1999, cited in Ardichvili et al., 2003), prior knowledge relevant to opportunity recognition is made up of two types. The first is knowledge in a domain of interest to the entrepreneur, where through investments of time and effort, the entrepreneur advances and develops his capabilities and knowledge. The second is knowledge in a different domain, which is accumulated over the years with relevant work experience. Although disassociated from the first domain, these two capabilities eventually coincide, leading to the discovery of new opportunities (Ardichvili et al., 2003). A person's prior knowledge is deemed to interact with, and is directly linked to, entrepreneurial alertness (Ardichvili & Cardozo, 2000).

2.4.4 *Discovery versus purposeful search*

Another important issue related to the opportunity recognition process is the discovery versus purposeful search debate. The discovery school of thought believes that opportunities are unknown until discovered (Kirzner, 1997; Kaish & Gilad, 1991, both cited in Chandra et al., 2009). Relevant skills, prior knowledge and alertness, as well as social networks, are viewed as favourable conditions for opportunity discovery. In contrast, the search school believes that opportunities are identified through a

purposeful and systematic search process (Drucker, 1998; Herron & Sapienza, 1992, both cited in Chandra et al., 2009), usually in response to a particular problem.

Although previous literature largely assumes that opportunity recognition is preceded by purposeful search, evidence supporting this is relatively weak (Ardichvili & Cardozo, 2000). Opposing research shows that opportunities are more often discovered rather than purposefully searched for as individuals realise the value of new information received (Ardichvili & Cardozo, 2000; Ardichvili et al., 2003).

2.4.5 *Social networks*

The significance of social networks and ties for opportunity recognition is well established in entrepreneurship literature, as networks serve as sources of information or ideas, reduce a firm's perceived risks when entering new markets and provide access to resources (Chandra et al., 2009; Ellis, 2011). The dissemination of information about opportunities is unevenly distributed through society, with benefits accruing to those who are able to recognise them first (Ellis, 2011).

Furthermore, ties can be either strong or weak, with weak ties argued to be the "bridges" to information sources, thereby providing access to unique information and ideas (Granovetter, 1973, in Chandra et al., 2009). Social networks of entrepreneurs and top management are also likely to influence entrepreneurial alertness (Ardichvili et al., 2003), and as such is often considered one of the more significant resources of an organisation.

2.4.6 *Personality traits*

Two personality traits are considered to be important to successful opportunity recognition (Ardichvili et al., 2003). The first includes optimism which is related to self-efficacy. Self-efficacy results in a consequent higher propensity to see opportunities as opposed to threats in a given situation (Neck & Manz, 1992, 1996, in Ardichvili et al., 2003).

The second personality trait is creativity. Although creativity has been found to be important to entrepreneurial opportunity identification, it is argued to be more important for solo entrepreneurs than networked ones (Ardichvili et al., 2003).

2.5 International opportunity recognition

As highlighted, the process of international entrepreneurial opportunity recognition has been under-explored and neglected in previous studies (Chandra et al., 2009; Dimitratos & Jones, 2005; Ellis, 2011; Young et al., 2003; Zahra & George, 2002). Given that international opportunity recognition is the start of the internationalisation process, it is surprising that this is the case. Even the existing theories of internationalisation provide limited explanation of this process, as it is largely assumed to occur prior to internationalisation (Chandra et al., 2009; Ellis, 2011). A few case-based studies exist that address this weakness (Chandra et al., 2009; Crick & Spence, 2005).

Given the scarcity of research on international entrepreneurial opportunity recognition, the main factors influencing it are not clearly defined or known to the researcher. However, some of the factors, as defined by the models of entrepreneurial opportunity recognition above, are assumed to hold in an international context as well. Chandra et al. (2009) investigates the first

time international opportunity recognition of firms according to the drivers of prior knowledge, international network structure ties and a firm's EO. These drivers were therefore adopted in this research. Furthermore, the role of organisational learning in this process was also considered, as advocated by Kiss et al. (2012).

2.5.1 *Organisational learning*

One of the most effective ways of obtaining competitive advantage is by exploiting the skills learned by employees, as a means of offering superior value and strengthening relationships with customers (Slater & Narver, 1995, in Chaston, Badger, Mangles & Sadler-Smith, 2001). Such employee-initiated strategic responses, with the various dimensions of competitive advantage related thereto, are typically addressed in organisational learning research. This research is, however, largely qualitative case-study based, with empirical research investigating the influence of organisational learning lacking (Chaston et al., 2001).

Organisational learning involves enhancing practices and expanding into new areas, through the creation of new knowledge, the building of new understandings, and the correction of misalignments (Argyris, 1990; Fiol & Lyles, 1985; Senge, 1990, all cited in Lumpkin & Lichtenstein, 2005). Multiple frameworks and typologies have been used to define organisational learning, with common categories of behavioural, cognitive and action learning identified (Lumpkin & Lichtenstein, 2005). These modes are summarised in Table 2 below.

Table 2: Summary of the different modes of organisational learning (Lumpkin & Lichtenstein, 2005, p. 453-457)

Mode	Characteristic	Focus
Behavioural	Routine-based systems Learning from repeated behaviours (trial and error)	Response to past history, and changes in organisational structures, technologies, routines and systems (Lundberg, 1995)
Cognitive	Aggregation and translation of changes in cognitive maps and patterns into changes of the organisation's cognitive plan	Content of learning rather than on behavioural outcomes Transformation of data to information to knowledge, with the utilisation of knowledge to improve creativity, interaction quality and other performance types (Fryer, 1999)
Action	Real-time learning	Moment-to-moment correction of misalignments between expectations and reality for more effective action in real-time (Argyris, 1990)

These three modes tend to be interconnected, with Lumpkin and Lichtenstein (2005) contending that this interconnectedness highlights the importance of organisational learning in the opportunity recognition process. They make the link between the two through the use of a creativity-based model of the opportunity recognition process, presented in Figure 7 above, with the success of this process dependent on the ability of organisations to learn through all phases of this process.

Although beyond the scope of this research, the complexities related to learning outcomes and the multiple levels of analysis are acknowledged (Argyris & Schon, 1978; Low & MacMillan, 1998, both in Lumpkin & Lichtenstein, 2005). At a simplistic level, organisational learning is considered a useful tool to understand how firms learn from and adapt to their changing environments in order to improve and enhance capabilities (Kiss et al., 2012). Such organisations that value learning are thought to

be more prone to the discovery of opportunities abroad (Dimitratos & Jones, 2005). This basic association between organisational learning and international opportunities is investigated through the following:

H1: There is a significant association between the adoption of organisational learning practices by firms and their recognition of international opportunities.

2.5.2 *Prior experiential knowledge*

The importance of learning for internationalising firms has been emphasised in numerous studies, with support for such knowledge being accumulated through experience (Barkema, Bell & Penning, 1996; Barkema & Vermeulen, 1998; Delios & Beamish, 1999; Zahra, Ireland & Hitt, 2000, all cited in Blomstermo, Eriksson, Lindstrand & Sharma, 2004). Penrose (1959, in Blomstermo et al., 2004; Eriksson, Johanson, Majkgard & Sharma, 1997) made the distinction between experiential and objective knowledge. Prior objective knowledge is acquired through standard methods of collecting and disseminating information, while prior experiential knowledge is country-specific, encompassing all types of knowledge accumulated by activity in foreign markets (Blomstermo et al., 2004; Eriksson et al., 1997). As highlighted in numerous international business research, as well the Uppsala model for internationalisation, experiential knowledge is more important for the internationalisation process (Blomstermo et al., 2004; Eriksson et al., 1997).

The viewpoints surrounding internationalisation include it being a gradual process with firms acquiring experiential knowledge over time (Cyert & March, 1963; Aharoni, 1966, both cited in Blomstermo et al., 2004; Eriksson et al., 1997), as well as a learning process based on trial and error (O'Grady & Lane, 1996; Eriksson, Johanson, Majkgard & Sharma,

2000a; Eriksson, Majkgard & Sharma, 2000b, all cited in Blomstermo et al., 2004). Exceptions to this exist in the form of born global firms, who have international operations very early in their existence (Oviatt & McDougall, 1994; Burgel & Gordon, 2000; Moen & Servias, 2002; Marimo, 2003, all cited in Blomstermo et al., 2004). As a result of their limited domestic experience prior to internationalising, such firms follow a different learning path (Eriksson et al., 2000a, b, cited in Blomstermo et al., 2004).

The Uppsala model of internationalisation (Johanson & Vahlne, 1977, in Eriksson et al., 1997) associates international expansion with psychic distance. Firms with little foreign market experience are said to prefer markets similar to their own domestic market, which are not located at too great a psychic distance. As these firms accumulate experiential knowledge, the influence of psychic distance decreases (Eriksson et al., 1997). Experiential market knowledge encompasses two aspects, namely business knowledge and institutional knowledge. Business knowledge encompasses knowledge of the market, clients and competitors, whereas institutional knowledge encompasses knowledge about governments, institutional frameworks, rules, norms and values (Eriksson et al., 1997, p. 361). Increasing experiential business knowledge enables firms to perceive more opportunities in foreign markets, and thereby reduce uncertainty (Kogut & Singh, 1988, in Eriksson et al., 1997). Institutional knowledge is also advantageous in that it facilitates acquaintances with local needs and requirements.

On the basis of the above, as well as the importance of information asymmetries and prior knowledge in the entrepreneurial opportunity recognition models, the following hypothesis was formulated:

H2: There is a significant association between prior experiential knowledge and international opportunity recognition.

2.5.3 *International social networks*

Entrepreneurial business activities require information, capital, skills and labour, amongst others things. Although firms possess some of these resources, they require complementary resources which can be accessed through their contacts (Aldrich & Zimmer, 1986; Cooper, Folta & Woo, 1995; Hansen, 1995; Teece, 1987, all cited in Greve & Salaff, 2003).

Support, knowledge and access to distribution channels is therefore obtained through their social networks. Furthermore, linkages to individuals and organisations that interact among themselves exists, which can widen the availability of resources (Hansen, 1995, in Greve & Salaff, 2003). The importance of social networks in the opportunity recognition process, both generally and in the case of internationalising firms, has been established (Crick & Spence, 2005; Ellis, 2011), and these can have several useful properties. Social networks can be enlarged to obtain information and other resources from knowledgeable others. They can also be used as a positioning tool to shorten the path to those in the know in order to obtain what is required (Blau, 1977; Burt, 1992; Granovetter, 1973, all cited in Greve & Salaff, 2003). Their structure can be either single-stranded relations, where a contact performs only one activity through one type of relation, or comprise multiplex ties, which have layers of different content or relationship types (Scott, 1991, in Greve & Salaff, 2003). These different social network structures are drawn on for different tasks.

Social networks fundamentally serve as conduits for the spread of information about new opportunities (Aldrich & Zimmer, 1986; Burt, 1992; Granovetter, 1973; Mitchell, 1969, all in Ellis, 2011) and this information diffuses unevenly through society, with benefits arising for those that recognise them first (Ellis, 2011). This ability to recognise new

opportunities is determined by the reach of one's ties (Aldrich & Zimmer, 1986, in Ellis, 2011).

Although the role of social networks in the opportunity recognition process has been highlighted, it has not been extensively tested in the context of international firms (Ellis, 2011). The limited research that has been conducted generally only considers the benefits accrued by social networks, such as reduced transaction costs and uncertainty associated with entering foreign markets, whilst promoting credibility and trust among exchange partners (Loane & Bell, 2006, in Ellis, 2011). As a result of the dearth of research examining the possible disadvantages, little is known about the potential trade-offs made when relying on networks for international opportunity recognition. Furthermore, the role of rival, non-network methods of international opportunity recognition are under-explored, with explanations for non-networks methods, such as unsolicited enquiries, missing (Ellis, 2011).

International marketing literature generally posits that the best exchanges result from formal market research and the systematic evaluation of opportunities (Douglas & Craig, 1983; Root, 1994; Young, Hamill, Wheeler & Davies, 1989, all cited in Ellis, 2011). This implies that tie-based exchanges are of a lower quality than those based on non-network methods of opportunity identification (Ellis, 2011). An alternative viewpoint to this is that tie-based exchanges are beneficial in that they are embedded in a milieu of trust between known partners (Uzzi, 1996, 1997, in Ellis, 2011), while non-network methods are seen as impersonal and judged solely on merits. This trust associated with tie-based networks results in them being rated more favourably than non-network methods (Ellis, 2011). Although Ellis (2011) made no distinction between the nature of ties, i.e. direct, indirect, strong or weak, he found that tie-based

opportunities led to higher quality and more valuable exchanges than non tie-based ones.

According to Granovetter (1973, p. 1367 in Chandra et al., 2009), the strength of ties is dependent on a, “combination of the amount of time, emotional intensity, intimacy and the reciprocal services”. Weak ties, such as friends, acquaintances, casual business contacts, and association memberships, are more likely to be information sources as they can act as bridges linking networks (Granovetter, 1973, in Chandra et al., 2009). However, building on this theory, Burt (1992, in Chandra et al., 2009) demonstrates that the strength of ties is not as important as to whether ties link networks that would otherwise be disconnected, through what is termed structural holes. The following was therefore formulated for testing:

H3.1: There is a significant association between firms with tie-based networks and the recognition of international opportunities, compared with firms with non tie-based methods.

According to Burt (1997), the strength of social network relationships can also be measured in terms of intimacy and activity, with intimacy measured by emotional closeness and activity measured in time. The researcher thought that the measuring of intimacy would be difficult to explain and quantify, and as a result of the perceived challenges associated with measuring this, this item was not included. However, activity measured in time was included, with the following formulated:

H3.2: There is a significant association between firms that interact with their international contacts more frequently and the recognition of international opportunities, compared to firms with lower interaction.

Considerable time is invested in both developing and maintaining social networks, so as to obtain information and resources. New contacts are developed, while existing or disused ones are maintained or re-established (Greve & Salaff, 2003). Time is therefore invested to develop and maintain contacts that are good for business, thereby building reliable and useful networks. As a result, the following hypotheses were formulated:

H3.3: There is a significant association between the amount of time spent developing contacts and international opportunity recognition, with firms that spend more time developing contacts recognising more international opportunities than firms that spend less time.

H3.4: There is a significant association between the amount of time spent maintaining contacts and international opportunity recognition, with firms that spend more time maintaining contacts recognising more international opportunities than firms that spend less time.

Furthermore, social networks take time to develop, with a correlation between network benefits and experience implied (Aldrich & Zimmer, 1986; Andersen, 2006, both cited in Ellis, 2011). If this relationship exists, a testable implication is as follows:

H 3.5: There is a significant association between firms that have known their international business contacts for longer periods and the recognition of international opportunities, compared with firms that have known their contacts for shorter time periods.

2.5.4 *Entrepreneurial orientation*

EO is generally conceived as the firm's strategic orientation encompassing the processes, practices and decision-making activities used for entrepreneurial actions (Lumpkin & Dees, 1996, cited in Covin & Wales, 2012; Jantunen, Puumalainen, Saarenketo & Kylaheiko, 2005; Kropp, Lindsay & Shoham, 2008; Raunch, Wiklund, Lumpkin & Frese, 2009; Wiklund & Shepherd, 2003). Although Lumpkin and Dess (1996, in Covin & Wales, 2012; Covin & Miller, 2014; Kropp et al., 2008) identify five dimensions of EO, it is typically defined as a construct comprising three dimensions of proactiveness, risk-taking and innovativeness (Covin & Slevin, 1991; Miller 1983, cited in Covin & Wales, 2012; Covin & Miller, 2014). This latter conceptualisation of EO is used for the purposes of this research.

Proactiveness is broadly defined as an opportunity-seeking, forward-looking perspective involving the pioneering of new methods and techniques (Lumpkin & Dess, 1996, in Kropp et al., 2008; Raunch et al., 2009). A proactive mindset enhances the probability that the tasks required for the establishment of international entrepreneurial exchanges will be undertaken (Kropp et al., 2008). Risk-taking refers to acting boldly (Kropp et al., 2008; Raunch et al., 2009). This includes venturing into new and unknown territories, which is characteristic of international exchanges. It also involves committing considerable amounts of assets and borrowing (Kropp et al., 2008). Innovativeness refers to a willingness to engage in creative and experimentation processes that may result in new products, services or technological processes (Lumpkin & Dess, 1996, in Kropp et al., 2008; Raunch et al., 2009).

The above definitions suggest that firms with high EO levels are more inclined to discover and exploit opportunities (Jantunen et al., 2005;

Wiklund & Shepherd, 2003). EO research in the international context has largely been in the areas of international EO and performance, international EO and culture and the measurement issues surrounding this (Covin & Miller, 2014). Research on the effect of EO on the decision to start an international business venture is under-explored.

In order to address this gap, particularly from an emerging economy perspective, Kropp et al. (2008) examined the impact of proactiveness, risk-taking and innovativeness on international business venture start-ups. They found that the decision to establish international business ventures was positively related to proactiveness and risk-taking, whilst innovativeness was not a factor (Kropp et al., 2008).

Chandra et al. (2009) also examined this relationship, focussing on the dimensions of proactiveness, innovativeness and autonomy. Although this excludes the dimension of risk-taking, and is inconsistent with the conceptualisation of EO for this research, an overall positive link between EO and the first time recognition of international opportunities was highlighted. As a result of the above, the following is hypothesised:

H4: There is a significant association between EO levels, in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities.

2.6 Conclusion

From the literature review it emerged that the international opportunity recognition process is under-explored and weakly understood, with calls for research in this area. Given the consequent paucity of research and literature, only a limited number of studies were found that directly examine and address this phenomena. The construct of entrepreneurial

opportunity recognition was considered as it provides valuable insights and knowledge. From the literature review the main drivers for international opportunity recognition were identified.

These are highlighted in the proposed conceptual model below (Figure 8), with their potential relationships and hypotheses:

H1: There is a significant association between the adoption of organisational learning practices by firms and their recognition of international opportunities.

H2: There is a significant association between prior experiential knowledge and international opportunity recognition.

H3: There is a significant association between international social networks and the recognition of international opportunities.

This is further subdivided into the following:

H3.1: There is a significant association between firms with tie-based networks and the recognition of international opportunities, compared with firms with non tie-based methods.

H3.2: There is a significant association between firms that interact with their international contacts more frequently and the recognition of international opportunities, compared to firms with lower interaction.

H3.3: There is a significant association between the amount of time spent developing contacts and international opportunity recognition, with firms that spend more time developing contacts recognising more international opportunities than firms that spend less time.

H3.4: There is a significant association between the amount of time spent maintaining contacts and international opportunity recognition, with firms that spend more time maintaining contacts recognising more international opportunities than firms that spend less time.

H3.5: There is a significant association between firms that have known their international business contacts for longer periods and the recognition of international opportunities, compared with firms that have known their contacts for shorter time periods.

H4: There is a significant association between EO levels, in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities.

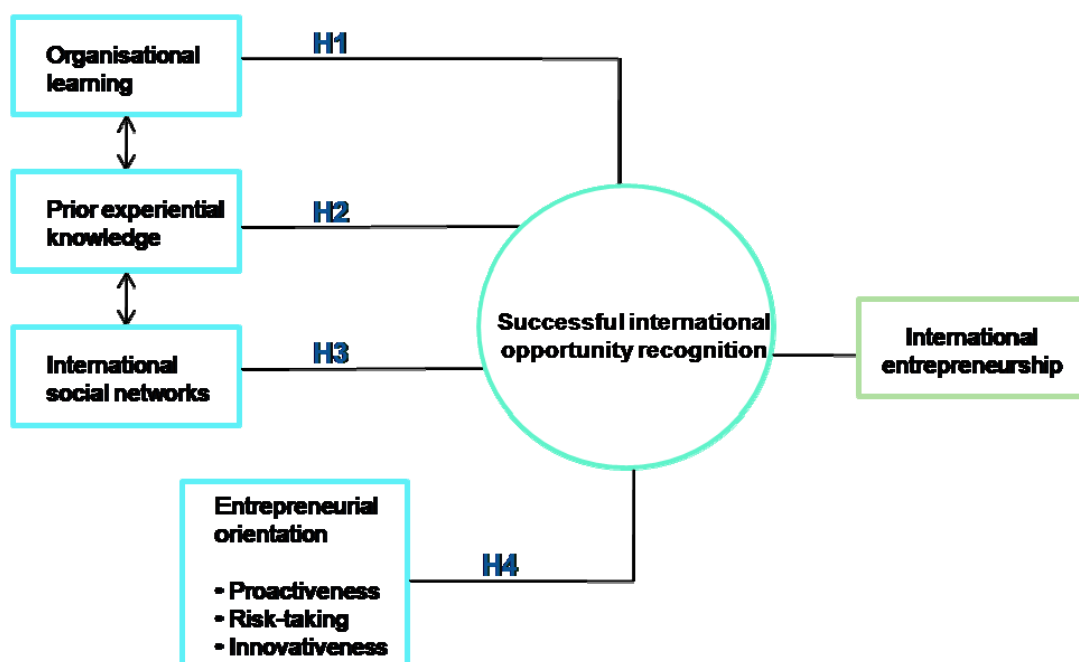


Figure 8: Conceptual model highlighting the factors influencing the recognition of international opportunities (Willard, 2013)

While these relationships are proposed for testing, no assumptions about alertness, or personality traits, as emphasised in the models of the

opportunity recognition process (Ardichvili & Cardozo, 2000; Ardichvili et al., 2003) are made. Furthermore, a cognitive approach encompassing the motivations for exploiting international opportunities (Zahra, Korri & Yu, 2005) are also not considered.

CHAPTER 3: RESEARCH METHODOLOGY

This chapter provides a broad overview of the research methodology that was followed to address the hypotheses put forward. The methodology used to select the sample, research instrument, data collection and analysis respectively is provided. This research was conducted by obtaining quantitative data, via an online self-administered survey, which was statistically analysed and interpreted.

3.1 Research methodology/paradigm

A quantitative statistical research methodology was used to attempt to ascertain how South African entrepreneurial firms recognise international opportunities. This research was in the form of a cross-sectional study that was conducted under field conditions.

A quantitative methodology approach was deemed appropriate for this research, and as such typically, “captures a population’s characteristics by making inferences from a sample” (Cooper & Schindler, 2011, p.142). This method is also appropriate for testing hypotheses developed from theory.

3.2 Research design

Quantitative data was collected from respondents meeting the research objective selection criteria, using an online self-administered survey.

Online self-administered surveys are advantageous in that they are cost-effective, enable convenient sample accessibility, and provide a level of anonymity (Cooper & Schindler, 2011). This methodological approach was chosen in an attempt to generate a fast, maximum response rate.

3.3 Population and sample

3.3.1 *Population*

The population for this research was South African based entrepreneurial firms who have international activities. To overcome existing research sample bias, and move away from the focus on high-technology and knowledge firms, no restrictions regarding firm age, size or sector were made. Initially firm age, size and sector were to be treated as control variables, where such variables are those that could potentially influence the dependent variable (Cooper & Schindler, 2011). Since their effect is beyond the scope of the research undertaken, they are included for the purpose of preventing biased results, and determining the extent of their effect (Cooper & Schindler, 2011).

However, as a result of the small sample size obtained, the influence of firm age, size and sector could not be controlled for during the statistical analysis.

3.3.2 *Sample and sampling method*

Attempts were made to distribute the online self-administered survey to members of the South African Chamber of Commerce and Industry (SACCI). This is reportedly the largest chamber in the country with 20,000 members representing firms of various sizes and industrial sectors across South Africa. Such attempts for the distribution of the research instrument to this large sample proved unsuccessful.

A database of companies' profiles and contacts was subsequently manually created by the researcher using the Gaffney's Business Contacts in South Africa for 2012-2014 (The Gaffney Group, 2012).

Chambers in Gauteng, KwaZulu-Natal and the Western Cape which represent the top three economic provinces of South Africa were selected (SAinfo, 2012). The local Chambers used from each province are listed in Table 3 below.

Table 3: List of local Chambers per province used to compile a database

Province	Local Chamber
Gauteng	Centurion Business Forum
	East Rand Chamber of Commerce and Industry
	Chamber of Commerce and Industry Johannesburg
	Tshwane Chamber of Commerce and Industry
KwaZulu-Natal	Durban Chamber of Commerce and Industry
	South Coast Chamber of Commerce and Industry
Western Cape	Cape Chamber of Commerce and Industry
	Ceres Business Initiative

A database containing company name, company website, business type, contact person, contact position, contact email and telephone number was created. Where such information was not contained within the business contact directory, this was augmented by conducting an online search and/or by visiting the company's website. A few personal contacts of the researcher were also included.

The sampling frame was the entrepreneur, founder or owner or members of top management, who are likely to be knowledgeable about the international growth strategy, and involved in the decision-making processes of the firm.

The sampling method was non-probability sampling. This method represented the most feasible option for the purposes of this research, as it is considered to satisfactorily meet sampling objectives (Cooper & Schindler, 2011). The selection criterion was South African entrepreneurial firms with international activities, and as such, purposive judgement

sampling was used in conformance with the selection criteria (Cooper & Schindler, 2011). The sampling method was also a convenience one. Utilisation of this method could result in the sample not being a true representation of the population, further expounded by the non-compulsory nature of participation.

In accordance with Cooper and Schindler's (2011) recommendations for maximising participation in a self-administered survey, and thereby increasing data to be collected, the survey was accompanied by the following:

- A covering letter clearly articulating the nature and purpose of the research;
- A promise of anonymity and privacy;
- An appeal for participation;
- Contact details of the researcher for enquiries and research feedback if required; and
- Clear instructions for completion.

3.4 The research instrument

The research instrument was an online self-administered survey. The reader is referred to Appendix A for the actual research instrument used.

As a result of the apparent lack of a standardised instrument to measure international opportunity recognition and its influencing factors, the researcher selected appropriate scales with modifications where necessary, for the purposes of this research. Other items were selected and modified as informed by literature. The sections of the research instrument are discussed and summarised in Tables 4, 5 and 6 below.

3.4.1 Background information

Background information included the demographics of respondents as well as the characteristics of the sample firms. The items measuring these as well as their literature source are provided in Table 4 below.

Table 4: Background information items and sources

Number	Item	Construct	Data type	Literature source
Respondent demographics				
1	Gender		Nominal/Categorical	
2	Highest education level	General human capital	Ordinal/Categorical	Kropp et al., 2008
3	Age	General human capital	Ordinal/Categorical	Corbett, 2007; Simrie et al., 2012
4	Position in firm	General human capital	Ordinal/Categorical	Corbett, 2007
5	No. of years in current position	General human capital	Ordinal/Numerical	Corbett, 2007
6	No. of years at firm	General human capital	Ordinal/Numerical	Corbett, 2007
Firm characteristics				
7	Firm age	Control variable (CV)	Ordinal/Numerical	
8	Firm size	CV	Ordinal/Numerical	Republic of South Africa, 1996
9	Firm sector	CV	Nominal/Categorical	Statistics South Africa, 2012

3.4.2 *Degree of internationalisation*

Given the multi-dimensionality of the degree of internationalisation, as well as the fact that this was included mainly for background information purposes, only three dimensions were selected for the purpose of this research. These included the time and performance dimensions, and aspects of the operation mode and market dimensions (Table 5).

Table 5: Internationalisation items and sources

Number	Item	Construct	Data type	Literature source
10	Internationalised		Nominal/Categorical	
11	Firm age at time of internationalisation	Time dimension (TD)	Ordinal/Numerical	Ruzzier et al., 2007
12	Time it took to reach 10% of sales from internationalisation	TD	Ordinal/Numerical	Ruzzier et al., 2007
13	Time it took to reach 20% of sales from internationalisation	TD	Ordinal/Numerical	Ruzzier et al., 2007
14	% of total sales from international sales	Performance dimension (PD)	Ordinal/Numerical	Jantunen et al, 2005; Ruzzier et al., 2007
15	% of time employees dedicate to international operations	PD	Ordinal/Numerical	Ruzzier et al., 2007
16	% of products/services sold abroad	PD	Ordinal/Numerical	Ruzzier et al., 2007

Number	Item	Construct	Data type	Literature source
17	No. and type of operation modes	Operation mode and market dimension (MMD)	Nominal/Categorical	Ruzzier et al., 2007
18	No. of foreign countries operating in	MMD	Ordinal/Numerical	Jantunen et al, 2005; Ruzzier et al., 2007

3.4.3 *Dependent variable*

A variety of methods of measuring opportunity recognition exists in literature, including the number of opportunities identified or recognised in the past (Singh, 2000, in Ellis, 2011), the likelihood of recognising opportunities in the future (Arenius & De Clerq, 2005, in Ellis, 2011), and the level of alertness to opportunities (Hills & Schrader, 1998; Ozgen & Baron, 2007, all in Ellis, 2011). These methods are argued to result in measurement inaccuracy, as opportunities are not evaluated according to their market potential (Ellis, 2011). This is suggested to be overcome by measuring the number of opportunities exploited, that have resulted in international exchange agreements (Chandra et al., 2009; Ellis, 2011).

In an attempt to address this, items 19-20 were categorised frequency items, measuring both the number of international opportunities recognised and the number of international opportunities exploited respectively.

3.4.4 *Independent variables*

Appropriate items from literature were adopted and modified, where necessary, to measure international social networks. The independent variables of prior experiential knowledge, organisational learning and EO were measured using existing Likert-type scales from literature. Information pertaining to these are summarised in Table 6 below.

Table 6: Independent variable items and sources

Number	Item	Construct	Data type	Literature source
21	Type of network (i.e. tie-based vs. non tie-based)	International social networks	Nominal/ Categorical	Ellis, 2011
22	Frequency of interaction with international contacts	International social networks	Nominal/ Categorical	Burt, 1997
23	Hours a week spent developing international contacts	International social networks	Ordinal/ Numerical	Greve & Salaff, 2003
24	Hours a week spent maintaining international contacts	International social networks	Ordinal/ Numerical	Greve & Salaff, 2003
25	Length of time known international contacts	International social networks	Ordinal/ Numerical	Burt, 1997
26	Lack of knowledge of language	Prior experiential knowledge	Ordinal/ Interval/ Numerical	Eriksson et al., 1997

Number	Item	Construct	Data type	Literature source
27	Lack of knowledge of foreign laws/norms/standards	Prior experiential knowledge	Ordinal/ Interval/ Numerical	Eriksson et al., 1997
28	Lack of subsidiaries/branches outside of South Africa	Prior experiential knowledge	Ordinal/ Interval/ Numerical	Eriksson et al., 1997
29	Lack of cooperative agreements with foreign firms	Prior experiential knowledge	Ordinal/ Interval/ Numerical	Eriksson et al., 1997
30	Lack of foreign experience	Prior experiential knowledge	Ordinal/ Interval/ Numerical	Eriksson et al., 1997
31	Lack of unique knowledge or competence	Prior experiential knowledge	Ordinal/ Interval/ Numerical	Eriksson et al., 1997
32	Constructive feedback given to employees	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
33	Employees encouraged to undertake training and development activities	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
34	Employees share training/development lessons	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
35	Employees share knowledge and resources	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
36	Firm's goals are made clear to employees	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001

Number	Item	Construct	Data type	Literature source
37	Employees, suppliers and customers are encouraged to inform firm of wrong things	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
38	Employees not afraid to voice differing opinions	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
39	Firm willing to change working practices	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
40	Firm always on lookout for new ideas	Organisational learning	Ordinal/ Interval/ Numerical	Chaston et al., 2001
41	Among the first to implement progressive and innovative production processes and practices	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
42	Management supports projects that are associated with risks and high returns	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
43	Actively observe and adopt best practices in sector	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
44	Actively observe new practices developed in other sectors for exploitation	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005

Number	Item	Construct	Data type	Literature source
45	Early recognition of technological changes that may affect business	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
46	Able to take on unexpected opportunities	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
47	Continually search for new practices	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
48	Prefer bold actions in uncertain decision-making situations	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005
49	Continuously allocate resources to new promising areas	EO	Ordinal/ Interval/ Numerical	Jantunen et al., 2005

Three of the four independent variables were measured using Likert-type scales. These scales were utilised as they exist in literature, thereby providing an opportunity for comparison of results. All selected scales reported construct validity and satisfactory reliability, in accordance with the acceptable values as indicated by Field (2013), for the research for which they were utilised.

The research instrument contained a total of 49 items, and as such the length could have resulted in respondent fatigue and carelessness, as well as enhanced other forms of bias (Podasoff, Mackenzie, Lee & Podasoff, 2003). Nonetheless, all items had to be included so as to encapsulate all the information required in the form of background information, independent variables and the dependent variable. Further attempts were

made to reduce bias and error, in that all terms or concepts used in the research instrument were clearly defined or explained.

3.5 Procedure for data collection

To test the hypotheses and determine the nature of associations, data was collected using an online self-administered survey, distributed by email to South African firms. The target participant was the entrepreneur, founder or owner, or members of top management of South African firms that had internationalised, with the anonymity of respondents assured.

3.6 Data analysis and interpretation

3.6.1 *Factor analysis*

Factor analysis is used to, “identify clusters of variables”, thereby, “reducing them into smaller sets of underlying dimensions” (Field, 2013, p. 666-667). Since the sample size criterion of 300 (Field, 2013) was not met, the validity of scales used in this research could not be investigated using exploratory factor analysis.

3.6.2 *Reliability*

Reliability analysis estimates the degree to which a measurement is free from error, thereby examining the accuracy and precision of the measurement procedure (Cooper and Schindler, 2011).

The reliability of the uni-dimensional, continuous scales of prior experiential knowledge, organisational learning and EO was investigated. The most common measure of this is Cronbach’s alpha, with acceptable values between 0.7 and 0.8 (Field, 2013, p. 709). Reliability was also

analysed using the Corrected Item-Total Correlation and the number of items per scale (Field, 2013).

3.6.3 Hypotheses testing

Each hypothesis was tested using appropriate analysis methods, with the decision to retain or reject the corresponding null hypotheses based on the significance or p-value, where $p < .05$.

The relationship between international opportunity recognition and organisational learning practices, prior experiential knowledge and EO levels was tested using one-way analysis of variance (ANOVA). International opportunity recognition and international social networks was investigated with Pearson's Chi-square test.

The dependent variable was measured using both the number of international opportunities recognised and the number exploited. The response categories of these two items were collapsed and recoded into three categories of low (0-4), medium (5-10) and high (>10), in an attempt to aid statistical analysis and interpretation.

3.6.3.1 One-way ANOVA

A one-way ANOVA is described as a, "single-factor, fixed-effects model which measures the effect of one factor on a dependent variable" (Cooper & Schindler, 2011, p. 477). The F ratio is used to determine whether or not differences are significant enough to reject the null hypothesis. One-way ANOVA is considered fairly robust (Cooper & Schindler, 2011).

One-way ANOVA was used to compare the means of organisational learning practices, prior experiential knowledge and EO relative to the number of international opportunities recognised and exploited.

3.6.3.2 Pearson's Chi-Square Test

Non-parametric measures of association, assessing the strength of relationships can be done using the Chi-square test. This test looks for significant differences between the observed distribution of data among categories and the expected distribution based on the null hypothesis (Cooper & Schindler, 2011). Despite this, there is no fully satisfactory measure for categorical data (Cooper & Schindler, 2011).

Each item for the sub-associations between international social networks and the dependent variable was analysed using this test. Given the small sample size, the response categories of items were collapsed and recoded in an attempt to meet the assumption of expected frequencies.

3.7 Limitations of the study

Given the scarcity of empirical studies that specifically address international opportunity recognition, the researcher was unable to find an all-inclusive standardised research instrument. The survey was therefore drawn from various sources and modified for this research. The lack of a well-defined measure, with a continuous scale, for the dependent variable of international opportunity recognition made it difficult to investigate the relationship between it and the independent variables of organisational learning, prior experiential knowledge, international social networks and EO. In addition, the scales used to measure the independent variables were different. Although organisational learning, prior experiential knowledge and EO were measured using continuous, Likert-type scales,

the former two were five-point Likert-type scales and the latter was a seven-point Likert-type scale. While different scale anchors are recommended to overcome common method bias (Podsakoff et al., 2003), this can complicate the statistical analysis. International social networks was measured using a combination of categorical items obtained from literature.

The small sample size obtained also posed some limitations when statistically analysing and testing the hypotheses. The small sample size could result in biases, and as such caution should be exercised when interpreting the results.

Data collection was limited to South Africa, and as a result the comparability and generalisability of findings to other contexts may be limited.

A convenience sampling method was used, which could result in the sample not being a true representation of the population.

3.8 Validity and reliability

According to Gravetter and Forzano (2012), validity is defined as the degree to which the study accurately answers the research question. The two varieties of validity that need to be considered include external and internal validity. Reliability relates to the accuracy and precision of the research and its measurement procedure (Cooper & Schindler, 2011).

3.8.1 External validity

External validity has to do with whether results would hold for other people, settings, times or places (Cooper & Schindler, 2011). This may be

affected by the actual sample size and response rate. Although attempts were made to alleviate this by encouraging participation, the small sample size of 71 may impede the external validity of this research and the generalisation of findings across populations.

3.8.2 *Internal validity*

Internal validity of research relates to the extent to which causal relation between the independent and dependent variables can be drawn, which is determined by investigating the construct validity (Cooper & Schindler, 2011). Items for the survey were drawn from the well-developed and researched entrepreneurial opportunity recognition construct and modified for application in an international context. As a result of the sample size not being met, exploratory factor analysis could not be conducted to investigate construct validity.

3.8.3 *Reliability*

Reliability refers to the ability to produce consistent results under similar conditions (Cooper & Schindler, 2011). In order to facilitate research reliability, full details regarding sampling, methodological and analysis approaches are provided. Measurement scales are also accounted for.

CHAPTER 4: RESULTS

This chapter presents the findings and results obtained from the research undertaken, beginning with an analysis of the sample, the demographics of respondents and the characteristics of the firm. The degree of internationalisation of firms is also analysed.

This is followed by the measurement aspects of the scales used in this research. Each hypothesis is then tested using appropriate analysis methods, with the decision to retain or reject the corresponding null hypotheses based on the significance or p-value.

Data tables presented in this chapter are for descriptive purposes only, with the full results obtained contained in Appendix B.

4.1 The sample

The sample was selected on a convenience, purposive judgement basis, in accordance with the criteria detailed in Chapter Three. Using the database created, the online self-administered survey was sent to a sample of 1,378 South African firms of various sizes and industrial sectors. A total of 133 responses was received, representing a 10% response rate. Of these, only 77 firms had international activities, which could be used for the purpose of this research.

The sample target was the entrepreneur, founder or owner or members of top management, knowledgeable about the firm's international growth strategy and decision-making processes. Five responses did not meet this sampling frame, as they were completed by individuals who were middle managers or employees. One had a high proportion of missing data (>20%) and was therefore considered incomplete. These were excluded,

resulting in 71 retained responses which were used in the final statistical analyses.

4.2 Respondent demographics and firm characteristics of the sample

The demographics of respondents and the characteristics of firms were analysed, with the descriptive statistics reported in the tables and figures below.

4.2.1 Respondent demographics

The majority of respondents were male, accounting for 92%. Most respondents had completed some form of higher education (90%), of which 35% are in possession of a post-graduate degree. Over two thirds of respondents fell within the 45-64 year age category, of which 30% were aged 55-64.

Nearly half of respondents were the founder of the firm (44%), followed by top management (35%). Nearly half of respondents were at their current job level for more than 15 years (46%), and were at the firm for the same time period (44%).

Table 7: Summary of respondent demographics

	Frequency	Percent
Gender		
Male	65	92
Female	6	8

	Frequency	Percent
Education level		
Did not complete school	0	0
Matric	7	10
Trade qualification/Certificate/Diploma	18	25
Bachelor's degree	21	30
Post graduate degree	25	35
Age		
18-24 yrs	0	0
25-34 yrs	4	5
35-44 yrs	14	20
45-54 yrs	19	27
55-64 yrs	21	30
>64 yrs	13	18
Current position in firm		
Founder	31	44
Owner/partner	15	21
Top management	25	35
Number of years at current job level		
<6 months	2	3
6 months-1 yr	6	9
2-5 yrs	7	10
6-10 yrs	12	17
11-15 yrs	11	15
>15 yrs	33	46
Number of years at firm		
<6 months	0	0
6 months-1 yr	7	10
2-5 yrs	9	12
6-10 yrs	12	17
11-15 yrs	12	17
>15 yrs	31	44

4.2.2 Firm characteristics

More than half of the firms have been in existence for more than 15 years (68%). The size of firms was spread across the size classifications, with the highest number of employees within the 5-20 (27%) and >200 (27%) size category. A third of firms fell within the manufacturing sector (31%).

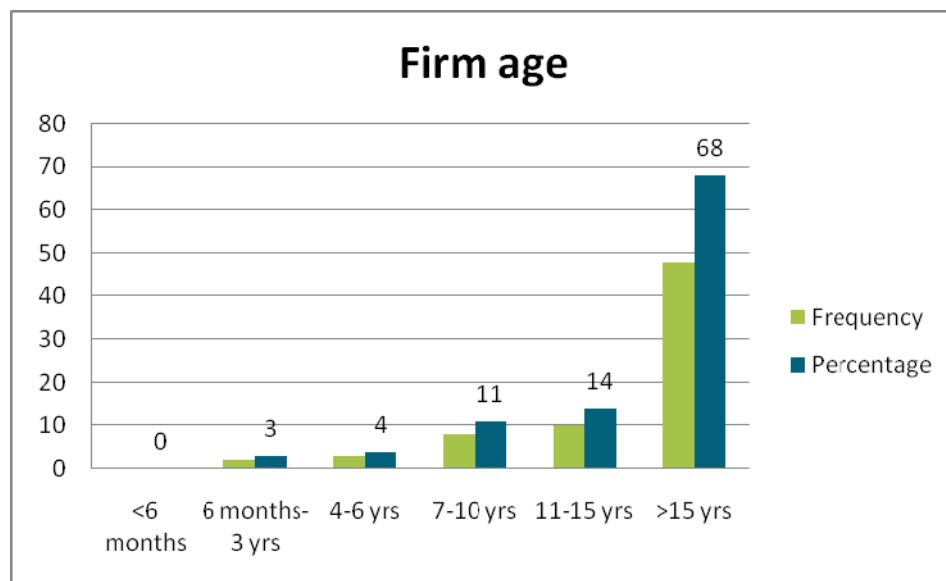


Figure 9: Number of years that firms have been in existence

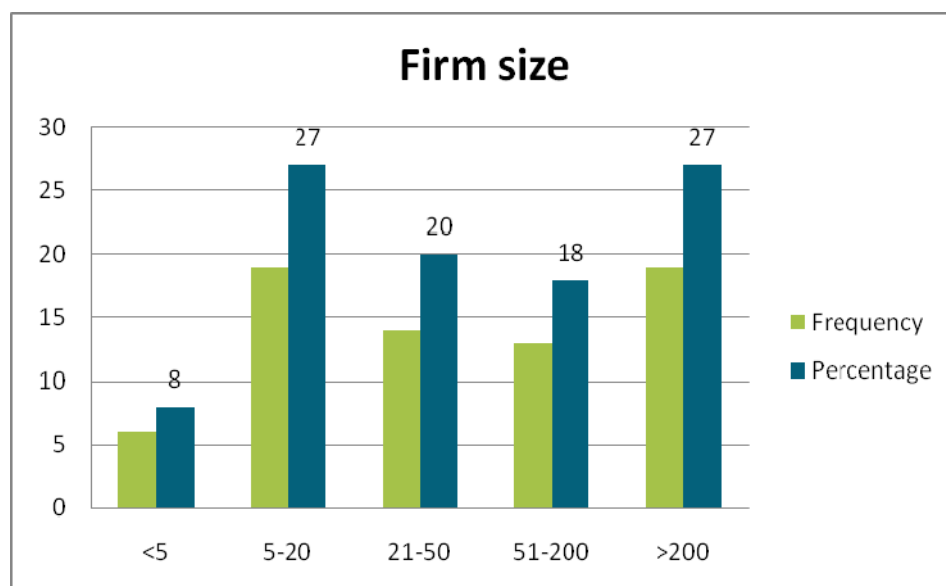


Figure 10: Number of employees employed by firms

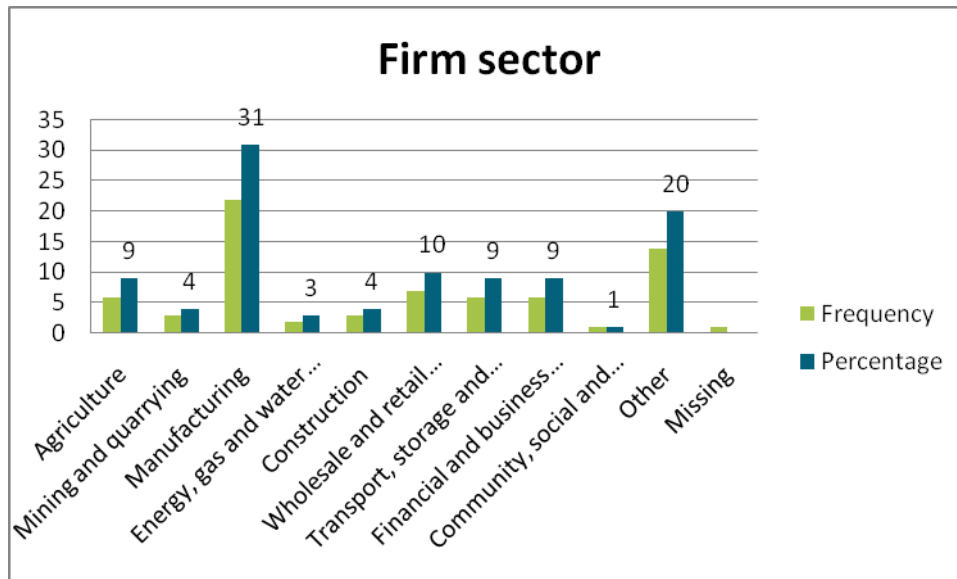


Figure 11: Sector classification of firms

4.3 Internationalisation of firms

The level of internationalisation of South African firms was assessed according to the time and performance dimensions, as well as aspects of the operation mode and market dimensions. Not all five dimensions, as discussed in Chapter Two were fully included, since internationalisation was included mainly for information purposes. A discussion of key observations is provided, with statistics pertaining to this reported below.

4.3.1 Time dimension

The first dimension deals with the time it took firms to internationalise, as well as to reach certain levels of foreign sales. Nearly a third (28%) of firms took more than 15 years to internationalise, while others internationalised within 6 months–3 years (22%) and 4-6 years (22%). Since internationalising, a third (32%) took 6 months-3 years to reach 10% of sales from foreign activities. Twenty-two percent of firms reached this mark in less than 6 months, while conversely, another 22% did not reach this level of foreign sales. Higher foreign sales were not achieved by a

third of firms. Those that did increase their foreign sales, generally did so within 6 months–6 years.

Table 8: Frequency distributions of firm characteristics relevant to the time dimension of internationalisation

	Frequency	Percent
Speed of internationalisation		
Not applicable	1	1
<6 months	4	6
6 months-3 yrs	16	22.5
4-6 yrs	16	22.5
7-10 yrs	7	10
11-15 yrs	7	10
>15 yrs	20	28
Time to reach 10% of sales from internationalisation		
Not applicable	15	22
<6 months	15	22
6 months-3 yrs	22	32
4-6 yrs	11	16
7-10 yrs	4	6
11-15 yrs	1	1
>15 yrs	1	1
Missing	2	
Time to reach 20% of sales from internationalisation		
Not applicable	23	33
<6 months	9	13
6 months-3 yrs	15	22
4-6 yrs	12	18
7-10 yrs	7	10
11-15 yrs	3	4
>15 yrs	0	0
Missing	2	

4.3.2 Performance dimension

Half of the firms (52%) made between 21->50% of their total sales from selling the same percentages of their products/services abroad. The time dedicated to international activities by employees was variable.

Table 9: Frequency distributions of firm characteristics relevant to the performance dimension of internationalisation

	Frequency	Percent
% of total sales generated from international sales		
0	2	3
1-5	12	17
6-10	6	8
11-20	14	20
21-50	20	28
>50	17	24
% of time employees dedicate to international activities		
1-5	15	21
6-10	14	20
11-20	11	15
21-50	17	24
>50	14	20
% of products/services sold abroad		
0	1	1
1-5	13	18.5
6-10	8	11
11-20	13	18.5
21-50	16	23
>50	20	28

4.3.3 Operation mode and market dimension

Over a third of firms (39%) used one operation mode when entering foreign markets, with the most frequently used operation mode being direct export (n=42), followed by imports (n=25) and then export through

an intermediary (n=19). Two thirds of firms (67%) operate within 1-10 countries outside South Africa.

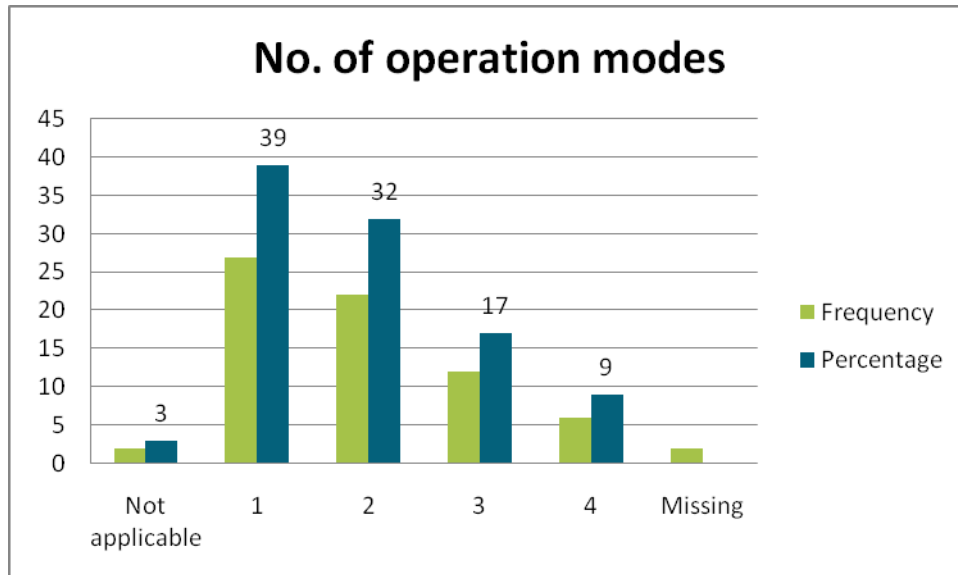


Figure 12: Number of operation modes used by South African firms when entering foreign markets

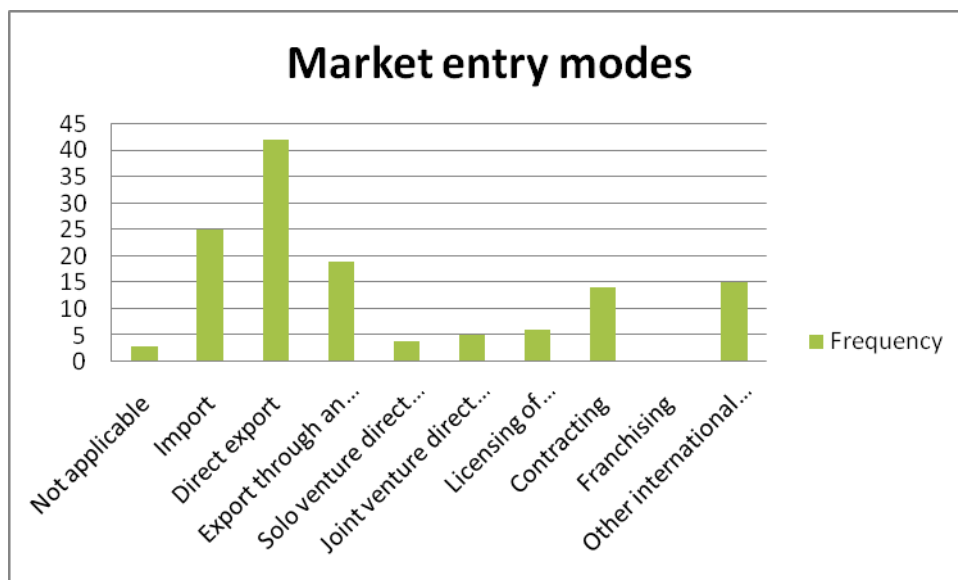


Figure 13: Type of operation modes used by South African firms when entering foreign markets

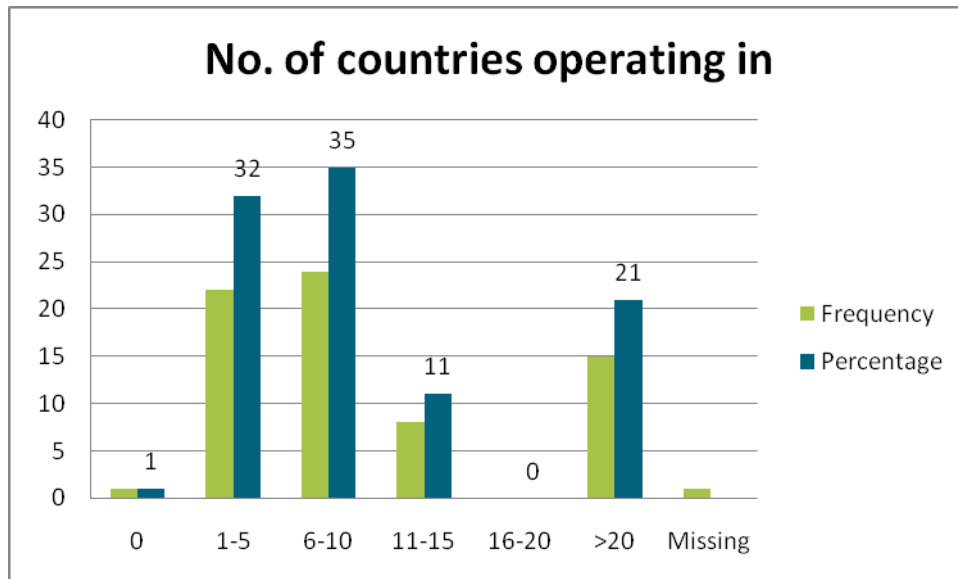


Figure 14: Number of countries outside South Africa where firms have international activities

4.3.4 Internationalisation by firm sector

An attempt was made to investigate the internationalisation of South African firms by sector, to determine whether a pattern exists, by conducting Chi-square statistical analysis. However, as a result of the small sample size, with insufficient counts per sector (Figure 11 above), the assumption of expected frequencies for this analysis was not met (Appendix B).

4.4 Measurement aspects of scales

The measurement aspects of the scales used in this research include reliability and descriptive statistics.

4.4.1 Scale reliability

Scale reliability analysis could only be conducted for the uni-dimensional, continuous scales of prior experiential knowledge, organisational learning and EO. Internal consistency of responses was assessed by Cronbach's alpha, and are reported in Table 10 below.

Table 10: Summary of scale reliability analyses

Scale	Items	Cronbach's alpha	Reliability
Prior experiential knowledge	28-33	0.77	Acceptable
Organisational learning	34-42	0.84	Good
EO	43-51	0.86	Good

4.4.2 Scale validity

A large sample size was not met, and as such the validity of scales could not be investigated using exploratory factor analysis.

4.4.3 Scale distributions and descriptive statistics

The independent variables of prior experiential knowledge, organisational learning, and EO were measured by uni-dimensional, continuous scales.

The descriptive statistics of the items in all scales are reported in Appendix B, with the item statistics per scale summarised in Table 11 below.

Table 11: Summary of scale item statistics

Scale	Mean	Minimum	Maximum	Variance	Number of items
Prior experiential knowledge	3.20	2.85	3.61	0.10	6

Scale	Mean	Minimum	Maximum	Variance	Number of items
Organisational learning	4.18	3.90	4.54	0.04	9
EO	5.42	5.05	5.88	0.10	9

The mean per scale was calculated as the average of reliable items in the construct. The prior experiential knowledge and organisational scales were five-point Likert-type scales, while the EO scale was a seven-point Likert-type scale. The mean responses for items measuring prior experiential knowledge and organisational learning scales were greater than the Likert-scale midpoint of 3. Similarly, mean responses for items measuring EO were greater than the Likert-scale midpoint of 4.

4.5 Tests of hypotheses

As discussed in Chapter Three, the dependent variable was measured by the number of international opportunities recognised and the number of international opportunities exploited. For comparison purposes, the testing of hypotheses and associations was conducted for each independent variable in relation to these two measurements of the dependent variable. The response categories of both the number of international opportunities recognised, and the number of international opportunities exploited, were collapsed and recoded into three categories of low (0-4), medium (5-10) and high (>10), so as to aid statistical analysis and interpretation.

The following section deals with the testing of hypotheses relative to the number of international opportunities recognised, while Section 4.5.2 details this relative to the number of international opportunities exploited. A final conclusion taking both these measurements into account is then provided.

4.5.1 *International opportunities recognised as the dependent variable measurement*

4.5.1.1 *Hypothesis 1*

The statistical null hypothesis corresponding to Hypothesis 1 posits that there is no association between the adoption of organisational learning practices by firms and their recognition of international opportunities. The statistical alternative hypothesis posits that a significant association between the adoption of organisational learning practices by firms and their recognition of international opportunities exists.

4.5.1.1.1 Tests

A one-way ANOVA was conducted to examine whether there were statistically significant differences in the number of international opportunities recognised relative to organisational learning practices adopted by the firm. The results revealed that organisational learning practices adopted by firms did not have a significant effect on the number of international opportunities recognised: $F(2, 63) = 1.168, p = .317$. However, mean organisational learning levels were higher for firms with high ($M = 4.28, SD = .46$), medium ($M = 4.11, SD = .57$) and low ($M = 4.09, SD = .45$) international opportunity recognition respectively.

4.5.1.1.2 Assumptions

Levene's test for equal variances was not significant ($p = .315$), and as such the assumption of equal variances was satisfied.

4.5.1.1.3 Conclusion

Based on the above, the null hypothesis of no relation between the adoption of organisational learning practices and international opportunity recognition was retained.

4.5.1.2 Hypothesis 2

The statistical null hypothesis corresponding to Hypothesis 2 posits that there is no association between prior experiential knowledge and international opportunity recognition. The statistical alternative hypothesis posits that there is a significant association between prior experiential knowledge and international opportunity recognition.

4.5.1.2.1 Tests

Using one-way ANOVA it was found that prior experiential knowledge does not have a significant effect on the number of international opportunities recognised by firms: $F(2, 63) = .461$, $p = .633$. The mean importance of prior experiential knowledge was higher for firms with medium ($M = 3.31$, $SD = .76$), low ($M = 3.27$, $SD = .89$) and high ($M = 3.07$, $SD = 1.00$) international opportunity recognition respectively.

4.5.1.2.2 Assumptions

The assumption of homogeneity of variance was not violated as Levene's test was non-significant: $p = .536$.

4.5.1.2.3 Conclusion

The null hypothesis of no relation between prior experiential knowledge and international opportunity recognition was retained.

4.5.1.3 Hypothesis 3

The statistical null hypothesis corresponding to Hypothesis 3 posits that there is no association between international social networks and the recognition of international opportunities. The statistical alternative hypothesis posits that there is a significant association between international social networks and the recognition of international opportunities. This is further subdivided into the following:

H3.1: There is a significant association between firms with tie-based networks and the recognition of international opportunities, compared with firms with non-tie-based networks.

H3.2: There is a significant association between firms that interact with their international contacts more frequently and the recognition of international opportunities, compared to firms with lower interaction.

H3.3: There is a significant association between the amount of time spent developing contacts and international opportunity recognition, with firms that spend more time developing contacts recognising more international opportunities than firms that spend less time.

H3.4: There is a significant association between the amount of time spent maintaining contacts and international opportunity recognition, with firms that spend more time maintaining contacts recognising more international opportunities than firms that spend less time.

H3.5: There is a significant association between firms that have known their international business contacts for longer periods and the recognition of international opportunities, compared with firms that have known their contacts for shorter time periods.

4.5.1.3.1 Tests

Each association as per the sub-hypotheses was individually tested by conducting Pearson's Chi-square statistical analysis. With the exception of the item for sub-hypothesis 3.1, the response categories of items for sub-hypotheses 3.2–3.5 were collapsed and recoded into three categories, in an attempt to meet the assumption of expected frequencies for the Pearson Chi-square test, as well as to aid interpretation.

4.5.1.3.1.1 Tie-based networks

The results revealed that there seems to be no significant association between the type of network and international opportunity recognition (Chi square value = 1.86, df = 2, $p = .395$). As a result of the small sample size, the Likelihood ratio is preferred, where $X^2 (2) = 2.14$, $p = .344$.

The majority of firms in all categories of the number of international opportunities recognised had tie-based networks with regard to their international exchange. These were 83%, 94% and 78% of firms in the low (0-4), medium (5-10) and high (>10) categories respectively. Of those with tie-based networks, 38% recognised a high number of international opportunities, followed by 35% with a low number and 27% with a medium number. Of the firms with non tie-based networks, 59% were characterised by high opportunity recognition (Table 12 and Figure 15).

Table 12: Contingency table for the relationship between international opportunity recognition and the type of network

International opportunity recognition	Type of network	
	Tie-based	Non tie-based
Low		
Count	19	4 [#]
Row %	82.6	17.4
Column %	34.5	36.4
Medium		
Count	15	1 [#]
Row %	93.8	6.3
Column %	27.3	9.1
High		
Count	21	6
Row %	77.8	22.2
Column %	38.2	54.5

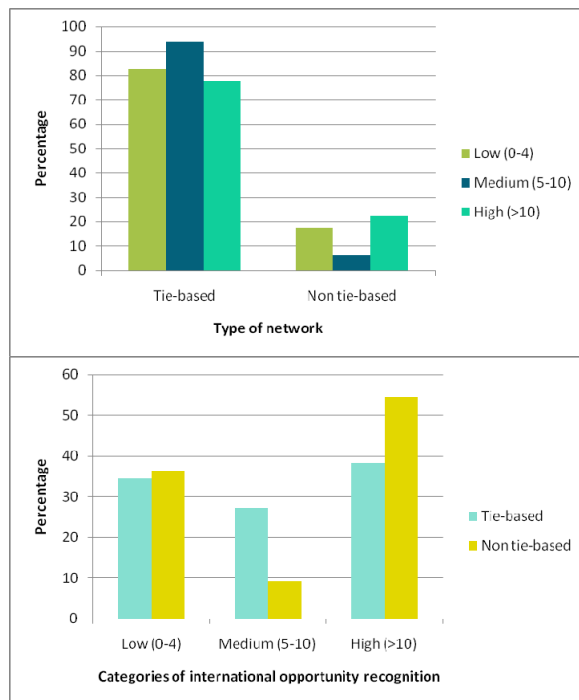


Figure 15: International opportunity recognition relative to the type of network

[#] Expected frequency <5

As a result, the null sub-hypothesis of no association between the type of network and international opportunity recognition was retained.

4.5.1.3.1.2 Frequency of interaction with international contacts

According to the results obtained, there seems to be a significant association between the frequency of interaction with contacts and international opportunity recognition (Chi square value = 13.91, $df = 4$, $p = .008$). As a result of the small sample size, the Likelihood ratio is preferred, where $X^2(4) = 14.85$, $p = .005$.

Of the firms with high international opportunity recognition, 85% interacted with their international contacts on a weekly basis, followed by 11% on a monthly basis, reduced to 4% on a less than monthly basis. Similarly for firms with medium international opportunity recognition, nearly half (42%) interacted with their contacts on a weekly basis followed by equal proportions (29% each) of monthly and less than monthly interaction. Firms with low international opportunity recognition tended to interact with their contacts on a monthly basis (41%).

Firms that interacted with their international contacts on a frequent, weekly basis recognised a high number of international opportunities (61%). This frequency of interaction reduced with lower opportunity recognition, with such interaction taking place more on a monthly and less than monthly basis (Table 13 and Figure 16).

Table 13: Contingency table for the relationship between international opportunity recognition and the frequency of interaction with contacts

International opportunity recognition	Frequency of interaction		
	Weekly	Monthly	Less than monthly
Low			
Count	8	9	5
Row %	36.4	40.9	22.7
Column %	22.2	56.3	50.0
Medium			
Count	6	4 [#]	4 [#]
Row %	42.9	28.6	28.6
Column %	16.7	25.0	40.0
High			
Count	22	3 [#]	1 [#]
Row %	84.6	11.5	3.8
Column %	61.1	18.8	10.0

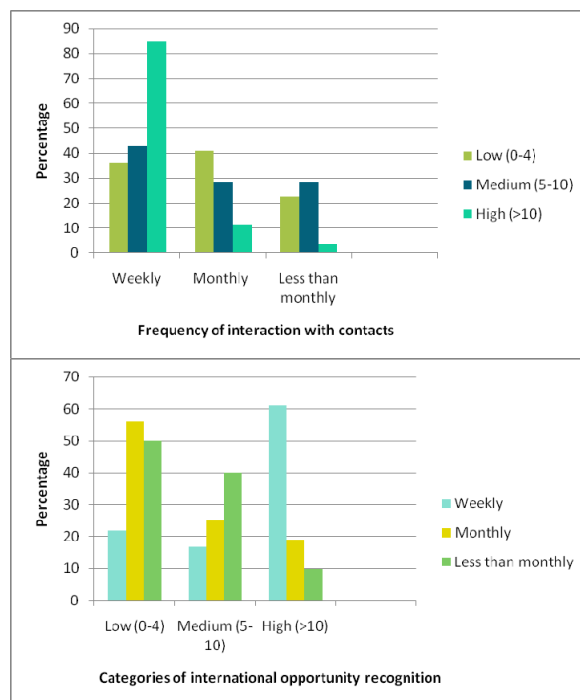


Figure 16: International opportunity recognition relative to the frequency of interaction firms have with their international contacts

[#] Expected frequency <5

On the basis of this, the null sub-hypothesis of no association between the frequency of interaction with contacts and the recognition of international opportunities was rejected in favour of the alternative hypothesis.

4.5.1.3.1.3 Hours spent developing contacts

The results revealed that the number of hours spent developing contacts seems to have a significant effect on the number of international opportunities recognised (Chi square value = 18.67, df = 4, $p = .001$). Taking into account the small sample size, the Likelihood ratio is $X^2(4) = 20.79$, $p < .001$.

Firms with high international opportunity recognition spend more time a week developing international contacts than firms with a lower opportunity recognition. High international opportunity recognition firms spend 7->9 hours a week developing contacts (52%), followed by 3-6 hours (40%). Conversely, firms with low international opportunity recognition mostly (68%) commit less time (<1-2 hours) to developing their international contacts (Table 14 and Figure 17).

Table 14: Contingency table for the relationship between international opportunity recognition and the time spent developing contacts

International opportunity recognition	Number of hours		
	<1-2	3-6	7->9
Low			
Count	15	2 [#]	5
Row %	68.2	9.1	22.7
Column %	65.2	13.3	21.7

[#] Expected frequency <5

International opportunity recognition	Number of hours		
	<1-2	3-6	7->9
Medium			
Count	6	3 [#]	5
Row %	42.9	21.4	35.7
Column %	26.1	20.0	21.7
High			
Count	2 [#]	10	13
Row %	8.0	40.0	52.0
Column %	8.7	66.7	56.5

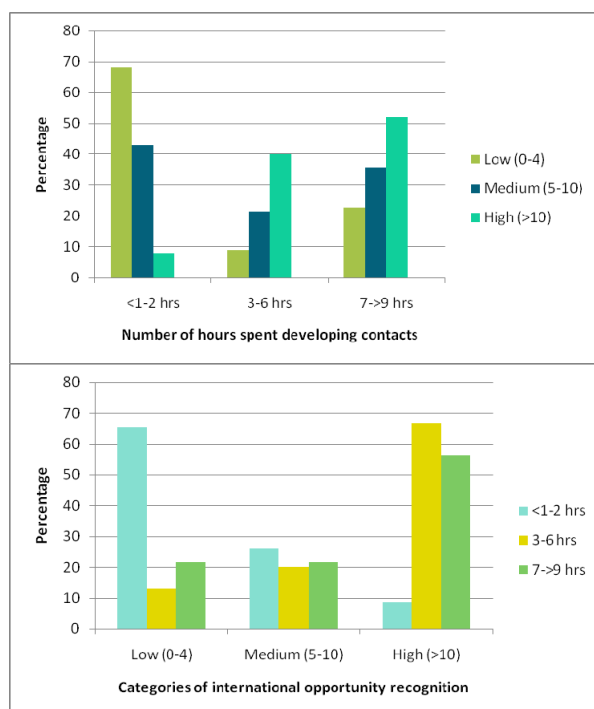


Figure 17: International opportunity recognition relative to the number of hours spent developing international contacts

Based on these results, the null sub-hypothesis of no association between the number of hours spent a week developing contacts and the recognition of international opportunities was rejected in favour of the alternative hypothesis.

4.5.1.3.1.4 Hours spent maintaining contacts

The results revealed that the number of hours spent maintaining contacts seems to have a significant effect on the number of international opportunities recognised (Chi square value = 27.42, df = 4, $p < .001$). Taking into account the small sample size, the Likelihood ratio is $X^2(4) = 34.69$, $p < .001$.

As with the development of international contacts, firms with high international opportunity recognition spend more time per week maintaining their contacts. Eighty-one percent of these firms spend 7->9 hours a week maintaining contacts. This frequency decreases with lower international opportunity recognition, where 67% of firms spend <1-2 hours a week maintaining these relationships (Table 15 and Figure 18).

Table 15: Contingency table for the relationship between international opportunity recognition and the time spent maintaining contacts

International opportunity recognition	Number of hours		
	<1-2	3-6	7->9
Low			
Count	14	2 [#]	5
Row %	66.7	9.5	23.8
Column %	66.7	18.2	16.7
Medium			
Count	7	4 [#]	4 [#]
Row %	46.7	26.7	26.7
Column %	33.3	36.4	13.3
High			
Count	0 [#]	5	21
Row %	0.0	19.2	80.8
Column %	0.0	45.5	70.0

[#] Expected frequency <5

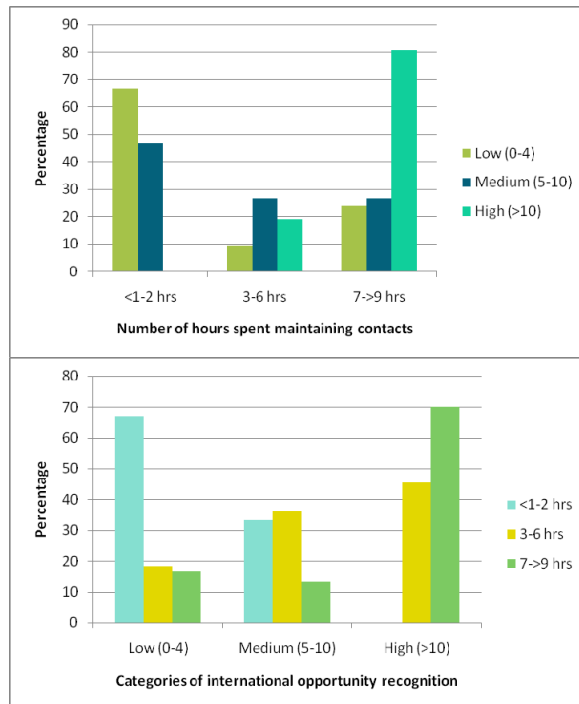


Figure 18: International opportunity recognition relative to the number of hours spent maintaining international contacts

Based on this, the null sub-hypothesis of no association between the number of hours spent a week maintaining contacts and the recognition of international opportunities was rejected in favour of the alternative hypothesis.

4.5.1.3.1.5 Length of time firm has known contacts

The results revealed that the length of time which the firms have known their international contacts did not have a significant effect on the number of international opportunities recognised (Chi square value = 8.84, df = 4, $p = .065$). Taking into account the small sample size, the Likelihood ratio is $X^2(4) = 9.34$, $p = .052$.

Firms with high international opportunity recognition have known their international contacts for longer time periods, with over half (59%) of these

knowing such contacts for more than 9 years. Of those that have known such contacts for a shorter time period (<1-3 years), 57% are characterised by lower opportunity recognition (Table 16 and Figure 19).

Table 16: Contingency table for the relationship between international opportunity recognition and the length of time the firm has known its contacts

International opportunity recognition	Number of years		
	<1-3	4-9	>9
Low			
Count	8	8	6
Row %	36.4	36.4	27.3
Column %	57.1	34.8	23.1
Medium			
Count	4 [#]	6	4 [#]
Row %	28.6	42.9	28.6
Column %	28.6	26.1	15.4
High			
Count	2 [#]	9	16
Row %	7.4	33.3	59.3
Column %	14.3	39.1	61.5

As a result, the null sub-hypothesis of no association between the length of time which the firms have known their international contacts and international opportunities recognition was retained.

[#] Expected frequency <5

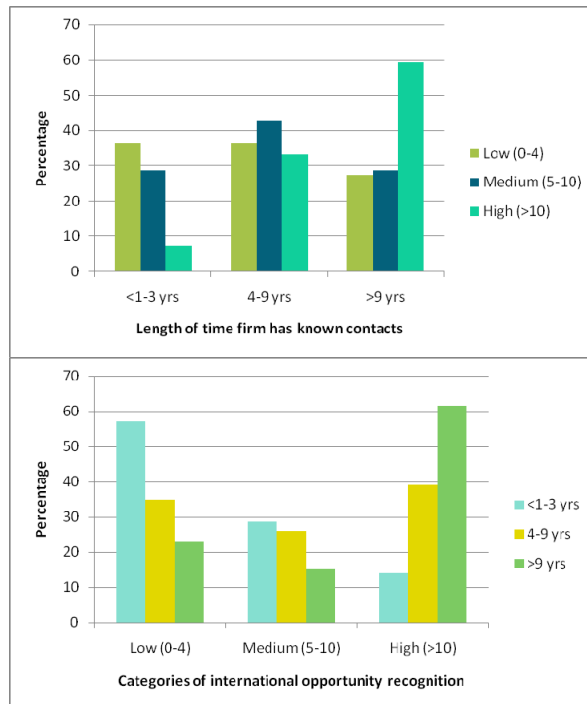


Figure 19: International opportunity recognition relative to length of time the firm has known its international contacts

4.5.1.3.2 Assumptions

Despite the attempts to collapse the response categories for each item pertaining to sub-hypotheses 3.2-3.5, the assumption of expected frequencies was not met for all of them, as some expected frequency counts were less than five. Given the small sample size, the violation of this assumption was expected.

4.5.1.3.3 Conclusion

As a result of the above, the significance of the association between international social networks and international opportunity recognition cannot be unequivocally stated. However, the frequency of interaction with international contacts, and the time spent developing and maintaining

contacts, does seem to have a significant effect on the number of international opportunities recognised by the firm.

The small sample size pertaining to South African firms that had internationalised presented one of the major limitations for this research, however this can be addressed by gathering more data in future research.

4.5.1.4 Hypothesis 4

The statistical null hypothesis corresponding to Hypothesis 4 posits that there is no association between EO levels, in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities. The statistical alternative hypothesis posits that there is a significant association between EO levels, in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities.

4.5.1.4.1 Tests

This relationship was investigated by conducting a one-way ANOVA. The results showed that EO levels did not have a significant effect on the number of international opportunities recognised by firms: $F(2, 63) = .868$, $p = .425$. Although not significant, mean EO levels were higher for firms with medium ($M = 5.55$, $SD = .81$), high ($M = 5.46$, $SD = .86$) and low ($M = 5.24$, $SD = .65$) international opportunity recognition respectively.

4.5.1.4.2 Assumptions

Given the non-significance of Levene's test: $p = .329$, the assumption of homogeneity of variances was met.

4.5.1.4.3 Conclusion

The null hypothesis of no association between EO levels, in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities was retained.

4.5.2 *International opportunities exploited as the dependent variable measurement*

4.5.2.1 *Hypothesis 1*

The statistical null hypothesis corresponding to Hypothesis 1 posits that there is no association between the adoption of organisational learning practices by firms and their recognition of international opportunities. The statistical alternative hypothesis posits that a significant association between the adoption of organisational learning practices by firms and their recognition of international opportunities exists.

4.5.2.1.1 Tests

The results of the one-way ANOVA revealed that organisational learning practices adopted by firms had a significant effect on the number of international opportunities recognised: $F(2, 67) = 5.515, p = .006$. Mean organisational learning levels were higher for firms with high international opportunity recognition ($M = 4.40, SD = .40$), followed by the low ($M = 4.15, SD = .47$) and medium ($M = 3.79, SD = .54$) categories.

4.5.2.1.2 Assumptions

Levene's test for equal variances was not significant ($p = .582$), and as such the assumption of equal variances was satisfied.

4.5.2.1.3 Conclusion

Based on the above, the null hypothesis of no association between the adoption of organisational learning practices and international opportunity recognition was rejected in favour of the alternative hypothesis.

4.5.2.2 Hypothesis 2

The statistical null hypothesis corresponding to Hypothesis 2 posits that there is no association between prior experiential knowledge and international opportunity recognition. The statistical alternative hypothesis posits that there is a significant association between prior experiential knowledge and international opportunity recognition.

4.5.2.2.1 Tests

Using one-way ANOVA it seems that prior experiential knowledge does not have a significant effect on the number of international opportunities recognised by firms: Welch $F(2, 67) = 1.963$, $p = .161$. The mean importance of prior experiential knowledge was higher for firms with low international opportunity recognition ($M = 3.40$, $SD = .85$), followed by the medium ($M = 3.16$, $SD = .51$) and high ($M = 2.88$, $SD = 1.04$) categories.

4.5.2.2.2 Assumptions

The assumption of homogeneity of variance was not met, as Levene's test was significant: $p = .028$. As such, results from the Welch robust test of equality was used.

4.5.2.2.3 Conclusion

The null hypothesis of no relation between prior experiential knowledge and international opportunity recognition was retained.

4.5.2.3 Hypothesis 3

The statistical null hypothesis corresponding to Hypothesis 3 posits that there is no association between international social networks and the recognition of international opportunities. The statistical alternative hypothesis posits that there is a significant association between international social networks and the recognition of international opportunities. This is further subdivided into sub-hypotheses as detailed in Section 4.5.1.3.

4.5.2.3.1 Tests

Each association as per the sub-hypotheses was individually tested by conducting Pearson's Chi square statistical analysis. The response categories of items for sub-hypotheses 3.2-3.5 were collapsed and recoded into three categories in an attempt to meet the assumption of expected frequencies for the Pearson Chi square test, as well as to aid interpretation.

4.5.2.3.1.1 Tie-based networks

The results revealed that there seems to be no significant association between the type of network and international opportunity recognition (Chi square value = .618, $df = 2$, $p = .734$). As a result of the small sample size, the Likelihood ratio is preferred, where $X^2(2) = .601$, $p = .741$.

The majority of firms in all categories of the number of international opportunities recognised had tie-based networks with regard to their international exchange. These were 86%, 89% and 79% of firms in the low (0-4), medium (5-10) and high (>10) categories respectively. Of those with tie-based networks, nearly two thirds (61%) were characterised by a low opportunity recognition (Table 17 and Figure 20).

Table 17: Contingency table for the relationship between international opportunity exploitation and the type of network

International opportunity recognition	Type of network	
	Tie-based	Non tie-based
Low		
Count	36	6
Row %	85.7	14.3
Column %	61.0	54.5
Medium		
Count	8	1 [#]
Row %	88.9	11.1
Column %	13.6	9.1
High		
Count	15	4 [#]
Row %	78.9	21.1
Column %	25.4	36.4

[#] Expected frequency <5

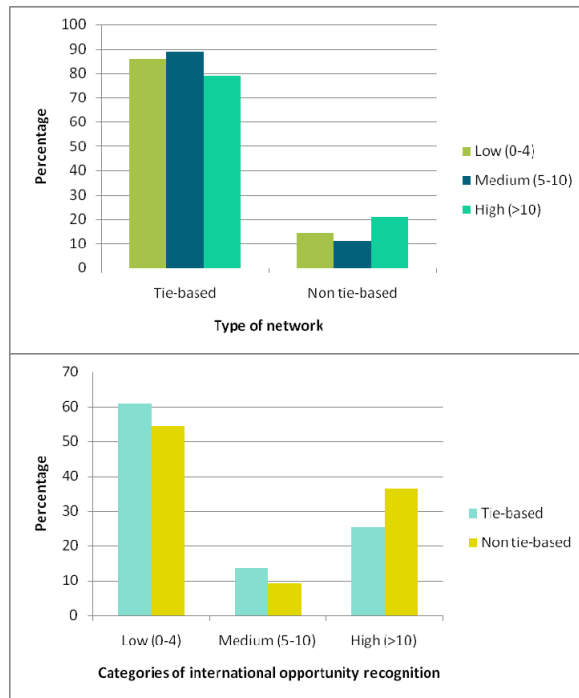


Figure 20: International opportunity exploitation relative to the type of network

The null sub-hypothesis of no association between the type of network and international opportunity recognition was therefore retained.

4.5.2.3.1.2 Frequency of interaction with international contacts

According to the results obtained, there seems to be a significant association between the frequency of interaction with contacts and international opportunity recognition (Chi square value = 20.121, df = 4, $p < .001$). As a result of the small sample size, the Likelihood ratio is preferred, where $X^2(4) = 25.818$, $p < .001$.

The majority (95%) of firms with high international opportunity recognition interacted with their international contacts on a weekly basis. Over two thirds (71%) of firms with medium international opportunity recognition also interacted with their contacts on a weekly basis.

Of the firms that interacted with their international contacts on a weekly basis, only 46% recognised a high number of international opportunities. Reduced interaction with contacts is characterised by a lower opportunity recognition (Table 18 and Figure 21).

Table 18: Contingency table for the relationship between international opportunity exploitation and the frequency of interaction with contacts

International opportunity recognition	Frequency of interaction		
	Weekly	Monthly	Less than monthly
Low			
Count	15	16	10
Row %	36.6	39.0	24.4
Column %	40.5	100	76.9
Medium			
Count	5	0 [#]	2 [#]
Row %	71.4	0.0	28.6
Column %	13.5	0.0	15.4
High			
Count	17	0 [#]	1 [#]
Row %	94.4	0.0	5.6
Column %	45.9	0.0	7.7

[#] Expected frequency <5

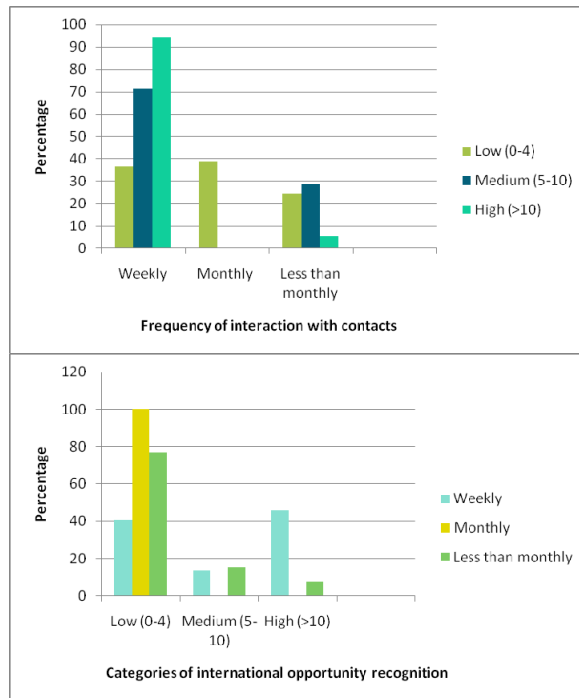


Figure 21: International opportunity exploitation relative to the frequency of interaction firms have with their international contacts

On this basis, the null sub-hypothesis of no association between the frequency of interaction with contacts and the recognition of international opportunities was rejected in favour of the alternative hypothesis.

4.5.2.3.1 Hours spent developing contacts

The results show that the number of hours spent developing contacts seems to have a significant effect on the number of international opportunities recognised (Chi square value = 15.425, df = 4, $p = .004$). Considering the small sample size, the Likelihood ratio is $X^2(4) = 16.766$, $p = .002$.

Firms with high international opportunity recognition spend more time a week developing international contacts, with 44% spending 7->9 hours a week and a further 44% spending 3-6 hours a week on this activity.

Conversely, over half (55%) of firms with low opportunity recognition only dedicate <1-2 hours a week to developing their contacts. Of the firms that commit the least time (<1-2 hours) to developing their international contacts, 88% have recognised a low number of international opportunities (Table 19 and Figure 22).

Table 19: Contingency table for the relationship between international opportunity exploitation and the time spent developing contacts

International opportunity recognition	Number of hours		
	<1-2	3-6	7->9
Low			
Count	22	7	11
Row %	55.0	17.5	27.5
Column %	88.0	46.7	47.8
Medium			
Count	1 [#]	0 [#]	4 [#]
Row %	20.0	0.0	80.0
Column %	4.0	0.0	17.4
High			
Count	2 [#]	8	8
Row %	11.1	44.4	44.4
Column %	8.0	53.3	34.8

[#] Expected frequency <5

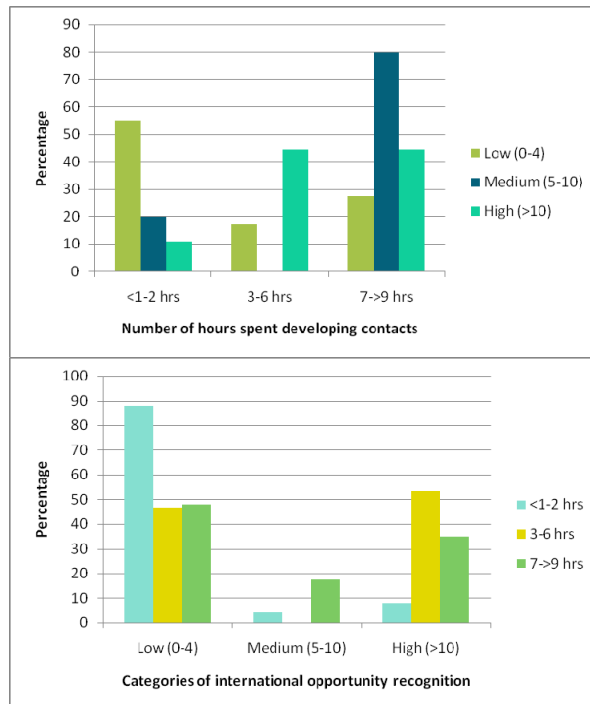


Figure 22: International opportunity exploitation relative to the number of hours spent developing international contacts

The null sub-hypothesis of no association between the number of hours spent a week developing contacts and the recognition of international opportunities was therefore rejected in favour of the alternative hypothesis.

4.5.2.3.1.4 Hours spent maintaining contacts

The results revealed that the number of hours spent maintaining contacts seems to have a significant effect on the number of international opportunities recognised (Chi square value = 18.460, df = 4, $p = .001$). Taking into account the small sample size, the Likelihood ratio is $X^2(4) = 25.273$, $p < .001$.

As with the development of international contacts, firms with high international opportunity recognition spend more time a week maintaining their contacts. Seventy-eight percent of these firms spend 7->9 hours a

week maintaining contacts. This time decreases with lower international opportunity recognition, as over half (51%) of these firms spend <1-2 hours a week maintaining their relationships with international contacts.

The majority (91%) of firms that spend the least time maintaining their international contacts are characterised by low opportunity recognition. In contrast, 64% of firms that spend 7->9 hours a week on this have medium to high opportunity recognition (Table 20 and Figure 23).

Table 20: Contingency table for the relationship between international opportunity exploitation and the time spent maintaining contacts

International opportunity recognition	Number of hours		
	<1-2	3-6	7->9
Low			
Count	20	8	11
Row %	51.3	20.5	28.2
Column %	90.9	66.7	36.7
Medium			
Count	2 [#]	0 [#]	5
Row %	28.6	0.0	71.4
Column %	9.1	0.0	16.7
High			
Count	0 [#]	4 [#]	14
Row %	0.0	22.2	77.8
Column %	0.0	33.3	46.7

[#] Expected frequency <5

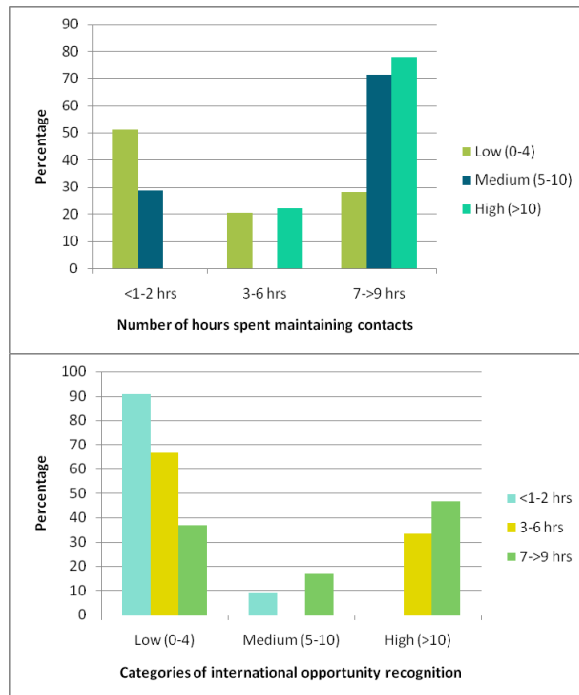


Figure 23: International opportunity exploitation relative to the number of hours spent maintaining international contacts

Based on this, the null sub-hypothesis of no association between the number of hours spent a week maintaining contacts and the recognition of international opportunities was rejected in favour of the alternative hypothesis.

4.5.2.3.1.5 Length of time firm has known contacts

The results revealed that the length of time which the firms have known their international contacts seems to have an effect on the number of international opportunities recognised (Chi square value = 11.310, df = 4, $p = .023$). Considering the small sample size, the Likelihood ratio is $X^2(4) = 12.002$, $p = .017$.

Firms with high international opportunity recognition have known their international contacts for longer time periods. Sixty-eight percent of these firms have known their contacts for >9 years, followed by 26% firms who

have known their contacts for 4-9 years. Of those that have known their contacts for a shorter time period (<1-3 years), 87% of firms are characterised by low opportunity recognition (Table 21 and Figure 24).

Table 21: Contingency table for the relationship between international opportunity exploitation and the length of time the firm has known its contacts

International opportunity recognition	Number of years		
	<1-3	4-9	>9
Low			
Count	13	16	10
Row %	33.3	41.0	25.6
Column %	86.7	66.7	38.5
Medium			
Count	1 [#]	3 [#]	3 [#]
Row %	14.3	42.9	42.9
Column %	6.7	12.5	11.5
High			
Count	1 [#]	5	13
Row %	5.3	26.3	68.4
Column %	6.7	20.8	50.0

As a result, the null sub-hypothesis of no association between the length of time which the firms have known their international contacts and international opportunities recognition was rejected in favour of the alternative hypothesis.

[#] Expected frequency <5

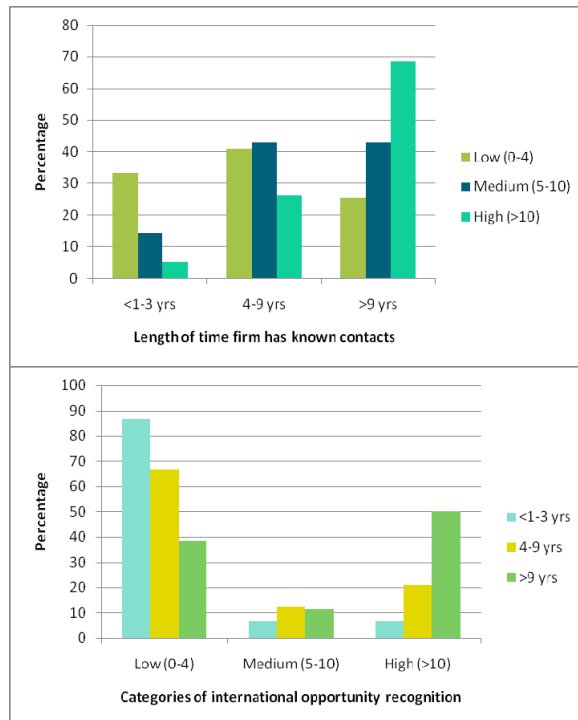


Figure 24: International opportunity exploitation relative to length of time the firm has known its international contacts

4.5.2.3.2 Assumptions

The assumption of expected frequencies was not met for all items, as some expected frequency counts were less than five. The violation of this assumption was expected due to the small sample size that was obtained.

4.5.2.3.3 Conclusion

Using the number of international opportunities exploited as the measurement of the dependent variable, the association between international social networks and international opportunity recognition cannot be unequivocally stated. However, the frequency of interaction with international contacts, the time spent developing and maintaining contacts, and the length of time that firms have known their international contacts

seem to have a significant effect on the international opportunity recognition process.

4.5.2.4 Hypothesis 4

The statistical null hypothesis corresponding to Hypothesis 4 posits that there is no association between EO levels in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities. The statistical alternative hypothesis posits that there is a significant association between EO levels in terms of proactiveness, risk-taking and innovativeness, and the recognition of international opportunities.

4.5.2.4.1 Tests

The results of the one-way ANOVA showed that the EO levels of firms did not have a significant effect on the number of international opportunities they recognised: $F(2, 67) = .648, p = .526$. Although not significant, mean EO levels were higher for firms with high ($M = 5.59, SD = .78$), medium ($M = 5.43, SD = .78$) and low ($M = 5.35, SD = .77$) international opportunity recognition respectively.

4.5.2.4.2 Assumptions

Given the non-significance of Levene's test: $p = .887$, the assumption of homogeneity of variances was met.

4.5.2.4.3 Conclusion

As a result, the null hypothesis of no association between EO levels and the recognition of international opportunities was retained.

4.6 Conclusions

The results presented here have reviewed the associations between international opportunity recognition and organisational learning practices, prior experiential knowledge, international social networks and EO levels by testing the null hypotheses for Hypothesis 1, 2, 3 and 4. For comparison purposes, measurements of the dependent variable included the number of international opportunities recognised and the number exploited. The associations between the dependent variable, as per the two measurements, and the independent variables were analysed and tested by conducting one way-ANOVA, and Pearson's Chi square test for categorical data.

The results for each hypothesis, with the decision to retain or reject the corresponding null hypothesis, for each measurement of the dependent variable is summarised in Table 22 below.

Table 22: Comparison of results obtained for the testing of hypotheses using the number of international opportunities identified and the number exploited as measurements of the dependent variable

Hypothesis	Dependent variable measurement		Final conclusion
	No. of opportunities recognised	No. of opportunities exploited	
H1	Retain H_0	Reject H_0	Inconclusive
H2	Retain H_0	Retain H_0	Retain H_0
H3.1	Retain H_0	Retain H_0	Retain H_0
H3.2	Reject H_0	Reject H_0	Reject H_0
H3.3	Reject H_0	Reject H_0	Reject H_0
H3.4	Reject H_0	Reject H_0	Reject H_0
H3.5	Retain H_0	Reject H_0	Inconclusive
H4	Retain H_0	Retain H_0	Retain H_0

On the basis of the above, Hypothesis 1 was inconclusive. No support was found for Hypothesis 2 and 4, as the null hypotheses were retained. Support for Hypothesis 3 was partially obtained as the null hypothesis for sub-hypothesis 3.2, 3.3 and 3.4 were rejected in favour of the alternative hypothesis. Sub-hypothesis 3.1 was not supported, while sub-hypothesis 3.5 was inconclusive.

The association between the adoption of organisational learning practices and the international opportunity recognition therefore cannot be proved or disproved. Furthermore, no significant association between prior experiential knowledge and EO, and the recognition of international opportunities, emerged. However, there appears to be some degree of significant association between international social networks and international opportunity recognition.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter discusses the findings of this research pertaining to the four hypotheses, as presented in Chapter Four, with associations with the literature review made. Discussions of the research sample and the internationalisation pattern of South African firms are also provided. Findings are discussed for each individual hypothesis. This is then concluded with a summary of findings, with significant associations or inconsistencies noted.

5.2 The sample

The intention of this research was to address the sample bias in IE research, as highlighted by Zahra and George (2002), and to transcend small sample sizes largely focussing on high-technology firms. A large sample size would have enabled statistical analysis according to industrial sectors, and would have also allowed the effect of the age and size of the firm to be controlled. It was hoped that a large sample size would have been achieved through the distribution of the research instrument to the member list of the SACCI, which represents a large database of South African firms across industrial sectors. Despite the efforts made by the researcher, this did not come to fruition.

Although the research instrument was finally distributed to over 1,000 firms, and the recommendations made by Cooper and Schindler (2011) for maximising participation were followed, only 133 responses were received. Once subjected to the sampling criteria outlined in Chapter Three, the total useable sample size was 71. This sample size impeded the intention for a more inclusive, larger sample representative of the

population. Furthermore, it presented challenges and limitations with regard to the statistical analysis of data, with implications for the findings of this research.

5.3 Internationalisation of firms

The items measuring internationalisation provide some insights into the strategies used by South African firms for internationalisation. Using the three year period as the cut-off point to distinguish between international new ventures and late internationalisers (Knight & Cavusgil, 1996; Oviatt & McDougall, 1995, in Chandra et al., 2009; Eriksson et al., 1997), the majority of South African firms (70%) can be considered as late internationalisers, as they took between 4->15 years to internationalise, of which a substantial percentage (28%) took more than 15 years to do so. This supports the traditional theories of internationalisation, where a gradual, staged-approach is assumed. In contrast, only 30% internationalised soon after establishment, with a small percentage (6%) doing so within 6 months of establishment.

A pattern also seems to exist with regard to the operation and entry modes used by South African firms into foreign markets, as their entry was largely through export and import activities. As such, entry was limited to 1-2 types of operation modes, and not through the combinations of modes typically associated with the dynamic global economy (Ruzzier et al., 2007). The number of foreign markets entered by South African firms was variable, however, over two thirds did not enter more than 10 countries. It would have been useful to include an item regarding the geographic location of these markets, so as to determine whether the psychic distance premise (Ruzzier et al., 2007) holds true for the internationalisation of South African firms.

Approximately half of the firms generated more than 20% of their total sales from international activities, by selling more than 20% of their products or services abroad. This can be viewed as representing growing sales resulting from their international activities.

Despite the suggestions by researchers (Axinn & Matthyssens, 2001; Whitelock, 2002) regarding the applicability of traditional theories for internationalisation to current global behaviour, these observations bear likeness to the incremental process that develops with knowledge of the Uppsala model. Accordingly prior experiential knowledge is assumed to be an integral part of the process (Eriksson, et al, 1997; Whitelock, 2002). Eriksson et al. (1997) notes a direct positive relationship between prior experiential knowledge and the speed and level of internationalisation. This association between prior experiential knowledge and the degree of internationalisation was beyond the scope of this research. However, the findings of this research, as discussed below, did not find prior experiential knowledge as having a significant effect on the recognition of international opportunities, as the beginning of internationalisation, by South African firms.

Internationalisation items were only included for background purposes, and as such a comprehensive account regarding the internationalisation of South African firms, particularly by industrial sector, cannot be provided. An in-depth analysis in this regard would be required.

5.4 Discussion of hypotheses

As discussed in previous chapters, the dependent variable was measured by the number of international opportunities recognised, as well as by the number of international opportunities exploited. The association of each

independent variable to the dependent variable was therefore tested using these two measurements.

In addition, very limited research specifically addressing the influence of the various factors on the international opportunity recognition process was available to the researcher. This therefore limits the conclusions that can accordingly be derived from literature.

5.4.1 Hypothesis 1

The number of opportunities recognised measurement did not reveal a significant association between the adoption of organisational learning practices and the recognition of international opportunities by South African firms. On the other hand, when measuring the number of international opportunities exploited, this association was significant. However, the mean of organisational learning practices was highest for the high (>10) opportunity recognition category for both cases, which suggests the importance of learning in this process.

To the researcher's knowledge, no research exists that directly examines the relationship between organisational learning and the international opportunity recognition process, and as such no comparisons and conclusions could be drawn. The complexities related to organisational learning, and the multiple levels of analysis (Lumpkin & Lichtenstein, 2005), which was beyond the scope of this research, could account for the possible intricacies relating to this relationship.

Using these two measurements, support to retain or reject the null hypothesis was inconclusive. These different findings therefore present an area for future research, as discussed in detail later, pertaining to the measurement of the international opportunity recognition construct. In

addition, the lack of empirical literature pertaining to this association means that influence, or lack thereof, of organisational learning on the international opportunity recognition process cannot be proved.

5.4.2 Hypothesis 2

Using both measurements, no significant association between prior experiential knowledge and international opportunity recognition was found. In both measurement cases, the mean importance of prior experiential knowledge was the lowest for the high (>10) opportunity recognition category.

This finding does not support the suggestions of literature of the importance of prior experiential knowledge. However, it is consistent with the findings of Chandra et al. (2009), in that the expected sources of knowledge about international markets, such as foreign education, knowledge of the language and foreign residency, did not result in opportunity recognition in the countries where they were obtained. Nonetheless, they did aid the internationalisation process by influencing alertness and the ability to search internationally. The absence of prior international experience and knowledge was associated with the discovery of first-time international opportunities, while increasing international experience and knowledge resulted in the use of a combination of search-and-discover for the firm's first international opportunity (Chandra et al., 2009).

It is important to note that the influence of prior experiential knowledge is suggested to be dependent on the type of industrial sector of the firm (Eriksson et al., 1997). Experiential knowledge of products and its functioning is thought to be more useful for product related industries, and market-related experiential knowledge for service industries (Eriksson et

al., 1997). The fact that effect of the sector of the firm could not be controlled for on the research sample as planned, could account for this differing finding. Despite the claim of prior experiential knowledge being more important in the internationalisation process, it might be useful to also examine the influence of prior objective knowledge which includes the market and technological aspects of knowledge.

As a result, robust support for this hypothesis was not obtained. The null hypothesis of no significant association between prior experiential learning and the recognition of international opportunities was retained.

5.4.3 Hypothesis 3

This hypothesis posits a significant association between international social networks and the international opportunity recognition. This was tested by a number of sub-hypotheses.

5.4.3.1 Hypothesis 3.1

Using both measurement methods, it emerged that there is no significant association between firms with tie-based networks and the recognition of international opportunities, compared with firms with non-tie-based methods.

This is in contrast with literature, where international opportunities have been recognised through tie-based networks (Crick & Spence, 2005; Ellis, 2011). However, Ellis' research (2011) revealed that entrepreneurs in open economies rely more on their social ties than those in less open or emerging economies, as the latter may have limited direct exposure to foreign markets. In addition, tie-based opportunities could be restricted in terms of geographic, psychic and linguistics distance, and as such, sole

reliance on tie-based methods could result in opportunities lying beyond these horizons being missed (Ellis, 2011). Given that South Africa is considered to be an emerging economy, this could account for the different finding of this research.

In addition, instead of examining the association of ties based on tie-based versus non tie-based methods as done by Ellis (2011), it would be useful to examine the nature of ties, in particular the role of weak ties, as is commonly done.

5.4.3.2 Hypothesis 3.2

Using both measurement methods, a significant association emerged between firms that interact with their international contacts more frequently and the recognition of international opportunities.

The researcher was unable to obtain empirical research and literature that examines this association for comparison purposes. However, frequent interaction between individuals could facilitate the building of trust, which enables the sharing of information (Ellis, 2011). Given this, this significant association is anticipated.

5.4.3.3 Hypothesis 3.3 and 3.4

Using both measurement methods, a significant association emerged between the amount of time spent developing and maintaining contacts and international opportunity recognition, with firms that spend more time developing and maintaining contacts recognising more international opportunities than firms that spend less time.

The findings of this research are consistent with the findings of Greve and Salaff (2003) who highlighted the importance of developing and maintaining relations during the different phases of business start-up. They found that entrepreneurs in the planning phase talked to more people, and that they invested time in building and maintaining networks during this crucial stage (Greve & Salaff, 2003). The role of networking, with the subsequent enlarging of social networks was displayed.

The findings of this research therefore suggests the importance of building and maintaining relations for opportunity recognition in the international context.

5.4.3.4 Hypothesis 3.5

The number of opportunities recognised measurement did not reveal a significant association between the length of time firms have known their international contacts and the recognition of international opportunities by South African firms. However, this association was significant when measuring the number of international opportunities exploited.

Some researchers claim that social networks take time to develop, with benefits accruing with experience (Aldrich & Zimmer, 1986; Andersen, 2006, both cited in Ellis, 2011). Conversely, others claim that experience and knowing social contacts for long periods is not a requisite, as younger, smaller firms, for example, can access the established networks of other firms (Coviello & Munro, 1997, in Ellis, 2011). In addition, smaller, younger firms can also be run by experienced or well-connected individuals through which networks already exist (Loane & Bell, 2006; Sharma & Blomstermo, 2003, both cited in Ellis, 2011). It is generally agreed that opportunity recognition is influenced merely by active participation in social and business networks (Aldrich & Zimmer, 1986; Coviello & Munro, 1997;

Johanson & Mattsson, 1988; Loane & Bell, 2006; Meyer & Skak, 2002; Mort & Weerawardenam, 2006; Sharma & Blomstermo, 2003; Singh, 2000, all cited in Ellis, 2011) and not the length of time for which this is done.

Using both measurements, firms that have known their international contacts for longer time periods are characterised by high opportunity recognition, while firms that have known their contacts for shorter time periods are characterised by lower opportunity recognition. However, due to the inconclusive findings pertaining to this sub-hypothesis, support for either claim in literature cannot be provided.

On the basis of the above, the importance of international social networks in the international opportunity recognition process, as per Hypothesis 3, is partially proved. Some consistency with the claim of social networks being the most significant resource of firms emerged (Johanson & Mattsson, 1988, in Chandra et al., 2009).

5.4.4 Hypothesis 4

Using both measurements, no significant association between EO levels, in terms of proactiveness, risk-taking and innovativeness, and the international opportunity recognition process emerged.

This is not consistent with the findings of Chandra et al. (2009), who found support for the role of EO in the recognition of the first international opportunity. Although they used the Lumpkin and Dess (1996, in Chandra et al., 2009; Covin & Miller, 2014) conceptualisation of EO, they found that not only were proactiveness, innovativeness and autonomy important in this process, but so were risk-taking and aggressiveness (Chandra et al., 2009). Although risk-taking did not discriminate as to who would recognise

more international opportunities, extreme risk-aversion was noted as causing blind spots, which prevented the recognition of international opportunities (Chandra et al., 2009).

Furthermore, the examination by Kropp et al. (2008) on the impact of proactiveness, risk-taking and innovativeness on international business venture start-ups found that this relationship was positively related to proactiveness and risk-taking, whilst innovativeness was not a factor (Kropp et al., 2008). Although this focussed on the decision to establish an international business venture, and not the opportunity recognition process per se, this study provided some insights from South Africa.

This inconsistency could have resulted from the EO measurement used. For the purposes of this research, the scale of Jantunen et al. (2005) was selected as it was a uni-dimensional one measuring proactiveness, risk-taking and innovativeness, in keeping with the typical definition of this construct in literature. They reportedly used modified scales that were based on those developed by Covin and Slevin (1998, in Jantunen et al., 2005) and Miller and Friesen (1982, in Jantunen et al., 2005). However, according to Covin and Miller (2014), the items used in this EO measure deviated significantly from those in the commonly used Miller/Covin and Slevin (M/C&S) scale (1989, in Covin & Miller, 2014).

Although support for this hypothesis was not obtained, it could be addressed and further examined by using the M/C& S scale as a basis for EO measurement. Furthermore, the differentiation of the three dimensions on this scale would enable examination of the effect of each dimension on the international opportunity recognition process.

5.5 Conclusion

The findings of this research were largely inconsistent with the literature review, and the suggestions of literature regarding the importance of a number of factors in the international opportunity recognition process. Prior experiential knowledge and EO levels did not seem to have a significant effect on the process. On the other hand, given the dearth of literature around organisational learning and international opportunity recognition, this association could not be conclusively drawn. Some support regarding the importance of international social networks, which was in keeping with the literature, was obtained.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter concludes this research and findings, as presented in this report, followed by recommendations and suggestions for future research to be undertaken.

6.2 Conclusions of the study

Given the limited research on the opportunity recognition process in the international context (Dimitratos & Jones, 2005; Ellis, 2011; Young et al., 2003; Zahra & George, 2002), the research sought to address this shortcoming. A review of the literature showed that a number of factors, including organisational learning, prior experiential knowledge, international social networks and EO, could potentially have a significant effect on this process. The aim was to therefore ascertain how entrepreneurial firms in South Africa recognise international opportunities, and whether or not the above factors had any bearing on the process.

There seems to be no consensus on how to measure international opportunity recognition (Ellis, 2011). In an attempt to address this, and for comparison purposes, this research used two measurement methods put forward by literature. Differing results were obtained for one hypothesis and one sub-hypothesis, and as such the overall findings pertaining to these two were inconclusive. This therefore provides an opportunity for future research regarding the refinement of the international opportunity recognition measurement.

The limited research available in the international opportunity recognition process subsequently resulted in limited guidance and direction for the purpose of the research. Furthermore, it limited the comparison and conclusions that could be drawn from the literature.

The findings of this research were largely inconsistent with the literature review, and the suggestions of literature regarding the importance of the above factors in the international opportunity recognition process. The importance of prior experiential knowledge and EO levels was not supported, as these did not seem to have a significant effect on the recognition of international opportunities. In addition, as a result of the different results obtained using the two measurement methods of international opportunity recognition, as well as the lack of literature specifically addressing this relationship, the effect of organisational learning could not be conclusively drawn. The importance of international social networks was partially supported, as the amount of time invested in interacting with contacts and developing and maintaining contacts was seemingly found to have a significant effect.

Due to time constraints, as well as for convenience purposes, data collection for the research was through an online self-administered survey. Strict adherence to the University's Codes of Ethics, with only the promise of a summary of results, did not attract individuals to complete the survey. It seems that this approach is not viewed favourably, thereby presenting the greatest challenge to this research. A small sample size was therefore the main constraint to this research, as it posed limitations when statistically analysing and testing the hypotheses. A longer time period could possibly have addressed this, through garnering greater support for, and participation in this research. Furthermore, data collection was done from firms in only three provinces of South Africa, which could result in the sample not being a true representation of the population. Despite these

limitations, the research provides the initial insights into an under-researched area from a South African perspective. It also identified further research questions and refinement required regarding the recognition of international opportunities.

6.3 Recommendations

The research responded to the call to broaden the research lens in IE, with empirical testing, albeit small, of firms from South Africa. This also addressed the dearth of IE research in emerging economies, where research in Africa is notably under-represented (Kiss et al., 2012). Abundant scope for research in this area still exists, and is required, in order to understand the international opportunity recognition process. Some suggestions pertaining to this, as highlighted by this research, are detailed below.

6.4 Suggestions for further research

Given the limited research in this area, the international opportunity recognition construct itself can be further researched, with the main influences and variables further developed and examined. In addition, the individual hypotheses that have been used to examine the relationship between each independent variable and the dependent variable can be individually examined in depth.

Given the small sample size obtained for this research, future studies can include a larger sample size, more representative of the population, in order to validate or disprove the findings of this research. The small sample size also prevented the effect of the age, size and sector of the firm to be controlled. The researcher was unable to focus on one industrial

sector for like-with-like comparison. This can be addressed with future research.

The measurement methods used can also be further examined, in particular the measurement of the international opportunity recognition process. As detailed throughout this report, this was measured by counting the number of opportunities recognised and the number of opportunities exploited. Different results were obtained for one hypothesis and one sub-hypothesis, resulting in the overall findings pertaining to these being inconclusive. The measurement of such can be further refined and sophisticated. Furthermore, more detailed information regarding these opportunities may be useful, and provide a more complete understanding of the international opportunity recognition process, than merely counting frequencies.

The effect of EO can be examined using the M/C& S measurement scale to see whether this gives different results than those obtained for this research. The differentiation of proactiveness, risk-taking and innovativeness would enable examination of the effect of each dimension on the international opportunity recognition process.

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ANNEXURES

APPENDIX A: RESEARCH INSTRUMENT

Dear Sir/Madam

I am a Master of Management (MM) student at the Wits Business School (WBS), specialising in Entrepreneurship and New Venture Creation. I am currently conducting research that will be reported in a dissertation in attainment of this degree. My research focuses on determining the main factors that influence South African firms to venture abroad.

This is a voluntary survey and participants may withdraw at any stage of the process. It takes approximately 10-15 minutes to complete, and I would be most grateful for your participation. This survey is anonymous, and confidentiality and ethics will be maintained in strict accordance to the WBS Code of Ethics. Collected data will be used for data analysis purposes only, with results reported as statistical averages.

If you would like to receive a summary of the results, please send me an email. Queries, additional comments and recommendations can be forwarded as well.

Thanking you in advance for your participation.

Candice Willard
Cell: 072 263 3178
Email: 580690@students.wits.ac.za or candicewillard@gmail.com

Demographics

Please tell me more about yourself and the firm:-

What is your gender?

Male

Female

What is your highest level of education?

Did not complete school

Matric

Trade qualification/certificate/diploma

Bachelor's degree

Postgraduate degree

What is your age?

18-24 yrs

25-34 yrs

35-44 yrs

45-54 yrs

55-64 yrs

>64 yrs

Which of the following are you?

Founder

Owner or partner

Top management

Middle management

Employee

Other

How long have you worked at **this current job level**?

<6 months

6 months-3 yrs

4-6 yrs

7-10 yrs

11-15 yrs

>15 yrs

How long have you worked at **this firm**?

<6 months

6 months-3 yrs

4-6 yrs

7-10 yrs

11-15 yrs

>15 yrs

How long has the firm been in business?

<6 months

6 months-3 yrs

4-6 yrs

7-10yrs

11-15 yrs

>15 yrs

How many people are employed by the firm?

<5

5-20

21-50

51-200

>200

What sector does the firm fall within?

Agriculture

Mining and quarrying
Manufacturing
Energy, gas and water supply
Construction
Wholesale and retail trade
Transport, storage and communication
Financial and business services
Community, social and personal services
Other

***Internationalisation is a firm-level activity that crosses international borders:-**
Has the firm internationalised?

Yes
No

How long was the firm in existence at the time of internationalisation?

Not applicable
<6 months
6 months-3 yrs
4-6 yrs
7-10 yrs
11-15 yrs
>15 yrs

Since internationalising, how long did it take to achieve **10% of sales** from such international operations?

Not applicable
<6 months
6 months-3 yrs
4-6 yrs
7-10 yrs
11-15 yrs
>15 yrs

Since internationalising, how long did it take to achieve **20% of sales** from such international operations?

Not applicable
<6 months
6 months-3 yrs
4-6 yrs
7-10 yrs

11-15 yrs

>15 yrs

What percentage of the firm's total sales is generated from international sales?

0%

1-5%

6-10%

11-20%

21-50%

>50%

What percentage of time do employees dedicate to international operations on a monthly basis?

0%

1-5%

6-10%

11-20%

21-50%

>50%

What percentage of all products/services sold are sold abroad?

0%

1-5%

6-10%

11-20%

21-50%

>50%

Please indicate the activities that the firm is engaged in

Not applicable

Import

Direct export

Export through an intermediary

Solo venture direct investment

Joint venture direct investment

Licensing of product/service

Contracting

Franchising

Other international activities

Please indicate the number of countries outside of South Africa where your product/service is sold

0

- 1-5
- 6-10
- 11-15
- 16-20
- >20

How many international opportunities* has the firm **recognised** in the past?

*Opportunities that result in the formation of exchange agreements with new customers in foreign markets:-

- 0
- 1
- 2-4
- 5-7
- 8-10
- >10

How many of these opportunities have been **implemented** that resulted in new business ventures or international exchange agreements?

- 0
- 1
- 2-4
- 5-7
- 8-10
- >10

Factors influencing the recognition of international opportunities

Please indicate the firm's use of the following in the identification of foreign customers

- Not applicable
- They are a relative or old friend
- Through personal contacts (e.g. friends/acquaintances)
- Knew them from a previous job/business relationship
- Referral from an existing client
- They are a former classmate/neighbour
- Formal search through government/other agency
- Formal search via market research
- Met at a trade fair/exhibition
- In response to an advertisement
- Other

How often does the firm interact with people with whom it can discuss international business matters (new international activities or existing ones)?

- Not applicable

Daily

Weekly

Monthly

Less than monthly

How many hours are spent a **week developing** contacts with people with whom the firm can discuss international business matters (new international activities or existing ones)?

Not applicable

<1 hr

1-2 hrs

3-4 hrs

5-6 hrs

7-9 hrs

>9 hrs

How many hours are spent a **week maintaining** contacts with people with whom the firm can discuss international business matters (new international activities or existing ones)?

Not applicable

<1 hr

1-2 hrs

3-4 hrs

5-6 hrs

7-9 hrs

>9 hrs

How long has the firm known these contacts with which it discusses international business matters (new international activities or existing ones)?

Not applicable

<1 yr

1-3 yrs

4-6 yrs

7-9 yrs

>9 yrs

Please indicate on the following scale, the extent of the challenge posed by the following statements with regards to the possibility of the firm acquiring assignments from abroad:-

	Not at all important	Slightly important	Neutral	Moderately important	Very important
Lack of knowledge of the language					
Lack of knowledge of foreign laws/norms/standards					
Lack of subsidiaries/branches outside of South Africa					
Lack of cooperative agreements with foreign firms (could include agreements with agents and alliance partners)					
Lack of foreign experience					
Lack of unique knowledge or competence					

Please indicate on the following scale, the degree to which each statement describes the current situation in your firm:-

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Constructive feedback is given to all employees on how they are doing					
Employees are encouraged to undertake training and development activities					
Employees share training/development learning lessons with others					
Employees share knowledge and resources					
The firm's goals are made clear to all employees					
Employees, suppliers and customers are encouraged to tell the firm if anything is going wrong					
Employees are not afraid to voice differing opinions					
The firm is always willing to change working practices					
The firm is always on the lookout for new ideas from any source					

Please indicate on the following scale, the degree to which each statement describes the current situation in your firm:-

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
We are among the first ones to implement progressive and innovative production processes and practices							
Management supports projects that are associated with risks and expectations for returns that are higher than average							
We actively observe and adopt best practices in our sector							
We actively observe new practices developed in other sectors and exploit them in our own firm							
We recognise early on technological changes that may have an effect on our business							
We are able to take on unexpected opportunities							
We search for new practices all the time							
In uncertain decision-making situations, we prefer bold actions so as to make sure that possibilities are exploited							
We allocate our resources continuously to new promising operation areas							